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An investigation of criteria for the evaluation of audio-visual services provided at the county level in California

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AN INVESTIGATION OF CRITERIA FOR THE EVALUATION OF
AUDIO-VISUAL SERVICES PROVIDED AT THE
COUNTY LEVEL IN CALIFORNIA

A Thesis
Presented to
the Faculty of the School of Education
College of the Pacific

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts in Education

by
Claude Wilbur Hass
August 1958

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APPROVED FOR THE SCHOOL OF EDUCATION

APPROVED FOR THE GRADUATE STUDY
COMMITTEE

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CHAPTER I

INTRODUCTION

I. THE PROBLEM

Audio-visual education is a rapidly developing area of education in California. Nichols found 34 counties had organized audio-visual services of some sort by 1947.¹ In 1956 all counties in California had either their own audio-visual service or a contractual arrangement with an adjoining county for service.² This represents a 70 per cent increase in counties receiving audio-visual services, but the quantity of materials in these many departments has increased even more. From 1947 to 1952 Darden³ found a total of 229 per cent increase in utilization or quantity stocked of 16 mm. films, 282 per cent increase in 35 mm. film strips, 92 per cent increase in records and transcription, and 113 per cent increase in all other materials in

¹H. Lester Nichols, "The County Audio-Visual Aids Center (unpublished Master's thesis, Stanford University, Palo Alto, 1947), p. 83.

²Bureau of Audio-Visual Education, State Department of Education, Sacramento, California, 1956.

³William J. Darden, "A Study of Audio-Visual Education in Selected California County Audio-Visual Centers" (unpublished Doctor's dissertation, Teachers' College, Columbia University, New York, 1953), p. 175.

19 selected counties. This tremendous growth would in itself preclude using criteria for evaluating audio-visual services which did not adjust to the growth of the program.

The problem of this thesis is the result of this changing situation. Are the criteria that evolved during the years 1947-50 and used by officials of the California State Department of Education for evaluating audio-visual services at the county level a satisfactory measure of the county audio-visual services required by today's demands?

II. THE THESIS

It is believed that the one set of criteria currently in use does not lend itself to the evaluation of all present day county audio-visual service centers. The increase in services offered, availability of more materials, greater utilization by teachers, new teaching techniques, and increased financial support are some of the factors which cause earlier values to become inaccurate for use as a comparative device.

The 1947-50 California State Department of Education criteria were for a "Yardstick County." A "Yardstick County" was defined as rural, medium-sized, compact and well-populated. It was believed necessary that the "Yardstick" be a rural county since the majority of the counties of

California are essentially rural in character.⁴ Only a very few California counties fit this description.

Population density has a great effect on the number of schools, the size of schools, the number of teachers, and the distance between schools. This in turn affects the amount of various material required and the professional and non-professional help required to give adequate service. The area of the county, its topography and other geographic characteristics create further problems for the audio-visual service center as they affect the material delivery time. Population density appears to be the most important factor to be considered. Therefore, it is believed that four sets of criteria are needed and they should be based primarily on the number of pupils served.

With four sets of criteria, more valid evaluations would be possible. One set of criteria would be used in evaluating the audio-visual service centers of sparsely settled counties. A second set of criteria would be used in evaluating the centers in medium population density counties. The third set of criteria would be used for evaluating the centers established by two or more sparsely settled counties as a cooperative center which serves a pupil population

⁴Harry J. Skelly, "Audio-Visual Services in Counties of Northern California" (unpublished Doctor's dissertation, Stanford University, Palo Alto, 1956), p. 2.

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equal to that of a medium population density county. A fourth set of criteria would be required in evaluating the heavily populated counties.

III. THE NEED FOR STUDY

The need for study seemed imperative with addition of Sections 9502, 9545, 9546, 9547, 9548, 9549, and 9550 to the Education Code for California by the 1955 Legislature. The above Code sections⁵ give the general provisions and procedures which must be followed in establishing, conducting, and maintaining facilities which provide for audial and visual curriculum materials, including salaries, supplies, materials, apparatus, and equipment and other necessary expenses. (See Appendix A, page 132, for Education Code sections cited above.)

These Code sections also permit the Superintendent of Public Instruction to provide additional money to the county school service fund in those counties in which he determines that the sparsity of population increases the operational costs.

Furthermore, as the legislation has certain mandatory and permissive powers and contains the word "necessary" in

⁵State of California, Education Code (Sacramento: State Printing Office, 1955), p. 498.

several places, some criteria on which to base decisions as to what is necessary should be provided. Necessary equipment and quantities of material will vary with the population density. The need, therefore, is to determine what constitutes an adequate audio-visual service for the four different county groups as outlined in the thesis.

The county school service fund budgets must be approved by the Superintendent of Public Instruction.⁶ Officials of the State Department of Education who are charged with the responsibility of receiving county school service fund budgets and recommending their approval should find such criteria as might be developed to be useful aids.

IV. DEFINITION OF TERMS

A few terms used in this study require defining to indicate their use herein.

Audio-Visual Services. This term refers to the practice of providing audio-visual materials, equipment, and professional assistance to teachers, supervisors, and administrators by an audio-visual department.

County School Service Fund. This term refers to the

⁶Ibid., p. 324.

total amount reserved for state apportionment of an amount equal to \$3.54 times the average daily attendance of the state. This fund is allocated to the county superintendents for the operation of the county school offices on the basis of need as expressed in their budgetary requests by the Superintendent of Public Instruction, State of California.

V. METHOD OF PROCEDURE

The method of procedure in making this study includes the following steps: (1) Reviewing the literature related to the area of this study. (2) Tracing the historical development of the county audio-visual service center including the legal basis for the existence of such centers. (3) Developing a questionnaire to evaluate the existing criteria as they apply to different classes of counties. (4) Summarizing of the findings. (5) Reaching conclusions based upon such findings.

The next chapter presents the legal basis for audio-visual education in California, the effect of legislation on the development of audio-visual service centers at the county level in California, and a brief survey of related studies.

CHAPTER II

THE DEVELOPMENT OF THE COUNTY AUDIO-VISUAL SERVICE CENTER

I. HISTORICAL BACKGROUND AND LEGAL BASIS

From a very auspicious beginning, the county audio-visual service center has grown to the functional organization that now exists. Nichols¹ found in 1947 the mean age of the 21 county audio-visual programs studied to be 6.8 years. The oldest program for which he had record is that of Santa Clara County. This county reported that its program dated from 1930.

Nichols also stated that several counties had programs of less than two years of age.² This clearly indicates that with a mean age of 6.8 years, many county programs were established before 1941, the year legislation granted county superintendents permission to establish such programs.

California Statutes of 1941, and as amended in 1945, granted permissive authority to the county boards of

¹H. Lester Nichols, "The County Audio-Visual Aids Center" (unpublished Master's thesis, Stanford University, Palo Alto, 1947), p. 17.

²Ibid., p. 22.

education for the establishment and the conducting of audio-visual services. Education Code sections 18941 and 18942 permitted service to elementary and secondary schools and provided that expenses for this service would be paid from the county unapportioned elementary and secondary school funds.³

The statutes further provided that agreements might be entered into by the county superintendent and the school districts through which payment by the districts could be made. Adding these sections,⁴ 18943 through 18946, placed additional financial support in the hands of the county superintendent of schools.

In 1946 the statutes were again amended and new statutes were added, all to become effective July 1, 1947. The unapportioned county school funds were eliminated and Code section 7001, which established the county school service fund, was added. As far as audio-visual services were concerned, the 1946 statutes provided a significant increase in available funds. The effect of the new legislation was noticeable almost immediately.

³State of California, Education Code (Sacramento: State Printing Office, 1949), p. 796.

⁴Ibid., p. 520.

Hansen surveyed the county audio-visual service centers in 1948 and concluded that ". . . rapid and desirable growth developed in county audio-visual services during the first year of the County School Service Fund."⁵

This rapid growth is still a continuing process. Some areas of service such as that of supplying educational motion pictures and filmstrips have more than doubled in quantities of material available from the centers during the years 1948-1951, according to Darden.⁶

In 1955 the California legislature again revised the statutes. The permissive code sections of earlier years concerning agreements between school districts and the Office of the County Superintendent of Schools became required.

Code section 9545 became operative on July 1, 1956. The most noteworthy element of the new section is the inclusion of a specific formula for computing what portion of the total expenses of audio-visual education would be born by the participating districts. An amount of not less

⁵Henry Rex Hansen, "The Administration of California County Audio-Visual Facilities" (unpublished Doctor's dissertation, Stanford University, Palo Alto, 1948), p. 177.

⁶William J. Darden, "A Study of Audio-Visual Education in Selected California County Audio-Visual Centers" (unpublished Doctor's dissertation, Teachers' College, Columbia University, New York, 1953), p. 175.

than one-fourth of the total costs was required in the fiscal year 1956-57, one-third in the fiscal year 1957-58, and one-half in the fiscal year 1958-59 and thereafter.⁷

An exception to the above provisions was included. The Superintendent of Public Instruction was granted permission to provide additional county school service fund money beyond the stated ratio of support in those counties in which he determines that sparsity of population increases operational costs.

Control of purchasing materials was also included for the first time. Section 9545 required that all films and filmstrips shall be adopted by the county board of education before they are purchased.⁸

With increased financial support, the number of persons assigned audio-visual responsibilities at the county level also increased. Where McPherson⁹ found only three full-time and six part-time audio-visual supervisors in 1939, Hansen¹⁰ found sixteen such directors in 1946 and forty-six in 1947. Thirty-four counties listed one or more full-time

⁷State of California, Education Code, op. cit., p. 491.

⁸Ibid., p. 499.

⁹Harry Maxwell McPherson, "Organization, Administration and Support of Visual Instruction in California" (unpublished Doctor's dissertation, University of California, Berkeley, 1939), p. 52.

¹⁰Hansen, op. cit., p. 24.

supervisors in 1956 and twenty counties listed persons on their staff devoting 50 to 90 per cent of their time to audio-visual supervision, a total of fifty-four counties in all.¹¹ This tremendous growth in audio-visual personnel is certainly a clear indication of the over-all growth of the audio-visual movement in California.

II. RELATED STUDIES

Because of the unique county level organization for the provision of audio-visual services to the schools of the many California counties, little appeared in early research. There were no reports listed in Motion Pictures in Education, A Summary of the Literature,¹² published in 1938.

A state policy of decentralization of libraries and controls is maintained. In 1948, according to a publication of the Research Division of the National Education Association, only Ohio and California state audio-visual offices expressed a major interest in decentralized

¹¹Directory of Audio-Visual Departments in California 1956-57, A Directory Prepared by the Bureau of Audio-Visual Education (Sacramento: California State Department of Education, 1956).

¹²Edgar Dale, and others, Motion Pictures in Education, A Summary of the Literature (New York: H. W. Wilson Co., 1938).

audio-visual education through the counties.¹³

Because of the unique position occupied by California in the field of audio-visual education, only studies that pertain directly to the program in California have much bearing on this study.

Of the early studies, McPherson¹⁴ was the first to make note of the county organization in California.

He found only three counties employing full-time county audio-visual supervisors, only eight counties owned film, and only twelve counties owned sound projectors.

In 1947 Nichols¹⁵ found 34 of the 58 counties with some kind of audio-visual program operating. He also concluded that a county in California has not only the legal basis but also an educational responsibility for providing audio-visual services to the public schools in the county.

After the first year of operation subsequent to the establishment of the county school service fund, Hansen¹⁶

¹³National Education Association, Research Division, Audio-Visual Staff and Organization in State Department of Education (Washington: Mimeographed, 1948), p. 7.

¹⁴McPherson, op. cit., p. 80.

¹⁵Nichols, op. cit., p. 83.

¹⁶Hansen, op. cit., p. 204.

studied the administration of the rapidly growing program.

Among major facts he discovered 38 of the counties had established instructional material libraries. Hansen¹⁷ further concluded that the establishment of more libraries reduced the distribution problem.

In 1951 Denno¹⁸ made a very detailed appraisal of audio-visual services in San Diego County. In studying distribution he reached the conclusion that materials should be delivered more than once a week in order to allow the materials to arrive when requested. In regard to technical service he found most schools in San Diego County well equipped with projection equipment but most schools in need of repair, advisory, documentary, and production services.

Two studies of importance in the field of inquiry are those of Darden¹⁹ made in 1953 and Skelly²⁰ in 1956. Darden studied trends in services offered while Skelly evaluated the departments as they then existed. Both persons were concerned with studies of California counties.

¹⁷Ibid., p. 200.

¹⁸Raymond E. Denno, "The Adequacy of a County-Wide Audio-Visual Service" (unpublished Master's thesis, University of Southern California, Los Angeles, 1951), p. 135.

¹⁹Darden, op. cit., p. 320.

²⁰Skelly, op. cit., p. 193.

According to Skelly²¹ an average of \$1.49 per unit of average daily attendance was being spent in all 47 counties studied. The median, however, was \$2.54 during the school year 1950-51.

Darden²² concluded, after thorough investigation, that the programs conducted by the various centers included in his study are fundamentally sound and give promise of continuing to remain important factors in cooperative effort to improve instructional processes.

III. SUMMARY

This chapter has presented the legal provisions pertaining to audio-visual education in California and the related literature in the field of inquiry.

The legal provisions through which the Superintendent of Public Instruction allocates financial support to the office of the various county superintendents of schools have been presented. Through this financial support from the state to the county level rapid and continuing growth in audio-visual services has taken place. With no decrease in state support, but increased local support being required, this growth should continue.

²¹Ibid., p. 161.

²²Darden, op. cit., p. 217.

The related literature indicates rapid and continued growth. None of the literature presents broad criteria which can be applied in evaluating all sizes of audio-visual service centers. All cited studies were based on data collected prior to 1952. Therefore, the following presentation of data obtained during the school year 1956-57 is timely and current.

The next chapter reports existing criteria and the methods used in obtaining and tabulating the data obtained from 20 selected county audio-visual directors of California.

CHAPTER III

THE ORGANIZATION AND CONDUCT OF THE STUDY

I. EXISTING EVALUATIVE CRITERIA

With the continued growth and extended state support it became imperative that some means of evaluating the many audio-visual service centers be created.

During the years 1947-50 personnel of the California State Department of Education developed the following criteria for evaluating audio-visual services at the county level:¹

1. Audio-visual services are provided or arranged for in every county by the office of the county superintendent of schools.
 - a. The audio-visual services are utilized by all school districts in a county that do not provide their own services.
 - b. When the inventory of materials is adequate according to criterion 2b, the audio-visual department serves all medium-sized and small

¹These criteria were evolved during the years 1947-50 and have been used as a basis for recommending allocation of moneys from the County School Service Fund for audio-visual purposes.

districts (for the present defined as districts of less than 10,000 units of a.d.a.).²

- c. The audio-visual service budget provides an adequate minimum support per unit of a.d.a. (for the present, \$1.50 per unit of a.d.a.).
- d. The audio-visual department (county superintendent of schools) enters into a contractual agreement with the districts served in order to increase the funds available for the purchase of additional materials.

2. The county audio-visual department augments the instructional program of the schools served by stocking an adequate supply of audio-visual instructional materials and equipment.

- a. The materials stocked include 16 mm. films, filmstrips, study prints, recordings, models, etc.
- b. The following amounts of certain types of materials are stocked as a basic library (several duplicates of each title may be necessary to meet requests):

² Average daily attendance for the school year.

16 mm. films	450 titles
35 mm. filmstrips	1,000 titles
study print sets	200 titles
recordings--tape and disc	1,000 titles
models	as needed
charts	as needed

c. The audio-visual equipment stocked meets the needs of the county staff, experimental needs, and emergency needs of the schools served.

3. The county audio-visual department provides all schools served with booking, distribution, and maintenance services compatible with good utilization requirements.

a. A dependable and efficient booking system is maintained.

(1) The single item order form is used to facilitate the ease and speed with which materials are booked.

(2) Loan periods are varied according to instructional needs (for example, as long as one week for films and two weeks for other materials).

(3) The booking card system used is one that allows for efficiency in

scheduling materials for specific dates. Systems similar to Wheeldex or Kardex are recommended for handling the cards.

- (4) The system for bookings is made as flexible as possible (for example, as little as two weeks in advance of day of intended use).
- b. Films are completely inspected after each booking.
 - c. Frequent delivery service is provided (for example, to each school at least once a week).
 - d. Up-to-date catalogs or card files of pertinent available materials are available to every teacher in the schools served (for example, card files or annual catalogs with intervening supplements).
 - e. A minimum of film rentals are made to supplement locally owned materials.
 - f. Maintenance and repair services for school owned audio-visual equipment are arranged for or provided.
 - g. Audio-visual equipment is loaned to meet the emergent needs of those served.

4. The county audio-visual plant is easily accessible and of sufficient size to warrant efficient operation.

a. The departmental plant is located in the same building or immediately adjacent to the one in which the other offices of the county superintendent of schools are located.

b. The county audio-visual department is housed in a county owned building.

c. The over-all size of the department is adequate for services offered (at least 1500 square feet of floor space).

d. The department has storage space that is easily accessible; shipping, receiving, and maintenance space; display space; preview and/or conference space; and office space.

5. The county audio-visual department employs sufficient qualified personnel to provide efficient professional and non-professional services.

a. The department is directed by a certificated person competent in audio-visual education. Certification requirements for audio-visual directors and/or supervisors are the same as that of other general supervisors.

- b. Sufficient non-certificated personnel are employed to perform the various tasks required for adequate audio-visual services.
- 6. The director or supervisor in charge of the audio-visual department has adequate time to carry out the following administrative and supervisory responsibilities relative to the audio-visual education program in the county (for the present at least 50 per cent of the time should be available for supervision):
 - a. To administer the procuring, distribution, technical and production services of the department.
 - (1) He provides opportunities for teachers and staff to preview audio-visual materials and to recommend purchases in terms of curricular needs.
 - (2) He formulates policies and procedures regarding the distribution of audio-visual materials and equipment.
 - (3) He provides assistance with acoustics, room darkening, wiring, and other technical problems of audio-visual education.

- (4) He assists with the production of locally needed audio-visual materials that are not available from other sources.
- b. To aid in the improvement of instruction by providing supervisory services.
 - (1) He assists teachers in the proper use of audio-visual materials in terms of curriculum objectives.
 - (2) He assists in arranging workshops, extension courses, and other in-service education activities.
 - (3) He integrates the audio-visual services with the county curriculum and/or course of study.

The above criteria are still being used by various State Department of Education personnel even though Skelly³ found them inadequate in 1952. He recommended then that the criteria be refined and modernized in order that more realistic evaluations could be accomplished. The purpose of this study is to refine and modernize these criteria.

Due to the unique pattern for audio-visual education in California, it was decided the best method of solving the

³Harry J. Skelly, "Audio-Visual Services in Counties of Northern California" (unpublished Doctor's dissertation, Stanford University, Palo Alto, 1956), p. 171.

problem was to select a jury of experts. The technique used in obtaining data was the questionnaire-interview technique thus polling the opinion of the twenty member jury of experts.

II. THE DEVELOPMENT OF THE QUESTIONNAIRE

Beginning with the existing criteria, each statement contained therein was rephrased to form a question. The existing criteria were used as a basis for the questionnaire because the purpose of the study is to determine if criteria that evolved during the years 1947-50 are a satisfactory measure of the county audio-visual services required by today's demands. Some of the questions would require yes or no answers, others would require that quantities be expressed.

In addition to the existing criteria, additional information was desired by the California State Department of Education, Bureau of Audio-Visual Education. These items do not all necessarily bear on the intent of the study. Where the added item was not of any significance as far as revising the criteria was concerned it is omitted from discussion in this study. (See Appendix B, page 137, for complete copy of the questionnaire.)

III. THE METHOD OF CIRCULATING THE QUESTIONNAIRE

Interpretation of questions often vary with the experience and training background of the person being interrogated. It was, therefore, believed that the most accurate method would be to use the questionnaire-interview technique, with one person conducting all interviews.

Although considerable travel was necessary because of the size of the State of California, all selected service centers were visited in a period of six weeks.

IV. THE INTERVIEWING METHOD

One copy of the questionnaire was mailed to the director of audio-visual education of each of the selected counties along with a cover letter (Appendix C, page 147). A visitation was then scheduled and a second copy of the questionnaire was completed by the interviewer at the time of the visit.

The directors were cautioned to answer in light of their knowledge and experience and not in terms of their departments. This was done in order that the interviewer could obtain answers which reflected what should be done rather than what was being done. The latter could be very limited due to inadequate financial support, county board of education policy, or the policy of the county superintendent and/or members of his staff.

V. THE SELECTION OF COUNTIES AND DIRECTORS
TO BE INTERVIEWED

All 58 counties in California could not be covered, due to time and cost. Secondly, nearly full-time directors were a necessity inasmuch as the basic assumption used was that all directors were experts in the size of county in which they were employed. To be an expert it was assumed that the director would have to devote most of his workday to audio-visual services.

The counties were then plotted according to the enrollment served by the audio-visual service center. From this plot they were divided into three groups. Those serving enrollments from 30,000 to 342,746 were placed in group 1. The centers serving enrollments from 5,000 to 29,999 constituted group 2. Small centers serving enrollments from 35 to 4,999 made group 3.

The enrollments were taken from the annual report submitted to the State Department of Education, Bureau of Audio-Visual Education (Appendix E, page 154).

A third factor was then introduced. The Association of California County Superintendents of Schools has had a formula committee studying the staffing pattern for supervision of instruction. Using Table 3 of this committee's report which was filed on March 9, 1956, a second plot was

made. Table 3 considered enrollment and sparsity and gave a total factor which represented the number of supervisors needed in each county (Appendix F, page 156). As sparsity was a factor to be reckoned with in this study, this committee's recommendations provided an excellent factor to use in selecting counties to be included. By using the limits 5,000 to 13,355 supervisors for group 1, 2,100 to 4,999 for group 2, and .000 to 2,009 for group 3, a second grouping was made.

Through listing all counties and eliminating those without an audio-visual education director, then eliminating all counties which did not remain in the same group when the enrollment and supervision factors were applied, it was found that twenty counties remained. Five of the twenty counties were in group 1, ten of the counties were in group 2, and five were in group 3. Upon examination it was noted that of the ten remaining in group 2, half of the counties operated audio-visual service centers serving two or more counties on a cooperative basis. The other half of group 2 consisted of counties whose services were limited to just the one county. It was, therefore, decided to include all ten counties in the study (Appendix D, page 150). The counties selected then fell into the following classifications:

Group 1: Larger audio-visual departments, over
30,000 enrollment served

Group 2a: Medium sized audio-visual departments serving between 5,000 and 29,999 enrollment in two or more counties

Group 2b: Medium sized audio-visual departments serving between 5,000 and 29,999 enrollment in one county only

Group 3: Small audio-visual departments serving less than 4,999 enrollment in one county or two counties.

VI. THE TABULATION TECHNIQUE

Where only yes or no answers are required simple tabulations are used. Arithmetical averages and means are used in tabulations requiring quantitative answers. Replies were not weighted in any case. All tabulations are made from the actual replies given by the respondents.

VII. THE ORGANIZATION OF TABLES

Tables in Chapter IV include data relating to all four classifications of counties wherever possible in order that easy comparison can be made. Each of the six sections of the questionnaire is tabulated in this manner so that any difference in criteria is easily recognizable.

VIII. SUMMARY

In this chapter the existing criteria have been presented, the method followed in constructing the questionnaire has been given and the method of circularizing the questionnaire has been explained. The method followed in conducting the interviews has been outlined along with the method followed in the selection of counties for study.

The statistical method used in presenting the data has been reviewed as well as the organization of the tables for easy comparison between counties of different classification.

The next chapter reports the data as collected by the interviewer.

CHAPTER IV

INDICATED DESIRED PRACTICES IN PROVIDING AUDIO-VISUAL SERVICES AT THE COUNTY LEVEL IN CALIFORNIA

The data obtained through the use of the interview instrument are presented in this chapter. The six existing criteria and the subdivisions thereof will be compared with the responses obtained from the directors of audio-visual education in the four groups of counties as defined.

I. CRITERION ONE

1. Audio-visual services are provided or arranged for in every county by the office of the county superintendent of schools.
 - a. The audio-visual services are utilized by all school districts in a county that do not provide their own services.
 - b. When the inventory of materials is adequate according to criterion 2b, the audio-visual department serves all medium sized and small districts (for the present defined as districts of less than 10,000 units of a.d.a.).
 - c. The audio-visual service budget provides an adequate minimum support per unit of a.d.a.

(for the present, \$1.50 per unit of a.d.a.).

- d. The audio-visual department (county superintendent of schools) enters into a contractual agreement with the districts served in order to increase the funds available for the purchase of additional materials.

According to Table I, all county audio-visual directors contacted substantiate the belief that the office of the county superintendent of schools has the responsibility for providing or arranging for audio-visual services.

Table I also indicates that these services should be utilized by all school districts not providing their own services. When the enrollment is not stated for those districts classed as medium and small-sized, all directors agreed that the county audio-visual departments should serve them. Criterion 1b states that they are presently defined as those districts of less than 10,000 units of average daily attendance. When enrollment is introduced as presented in Table II, page 32, there is much variance in the responses. Reasons for the variance are that (1) when in replying to the question concerning enrollment, the respondent considered his difficulty in obtaining sufficient financial support to serve the schools for which he has responsibility, or (2) the fact that if the largest school district served by his

TABLE I

THE RESPONSIBILITY OF THE COUNTY SUPERINTENDENT OF SCHOOLS
FOR AUDIO-VISUAL EDUCATION

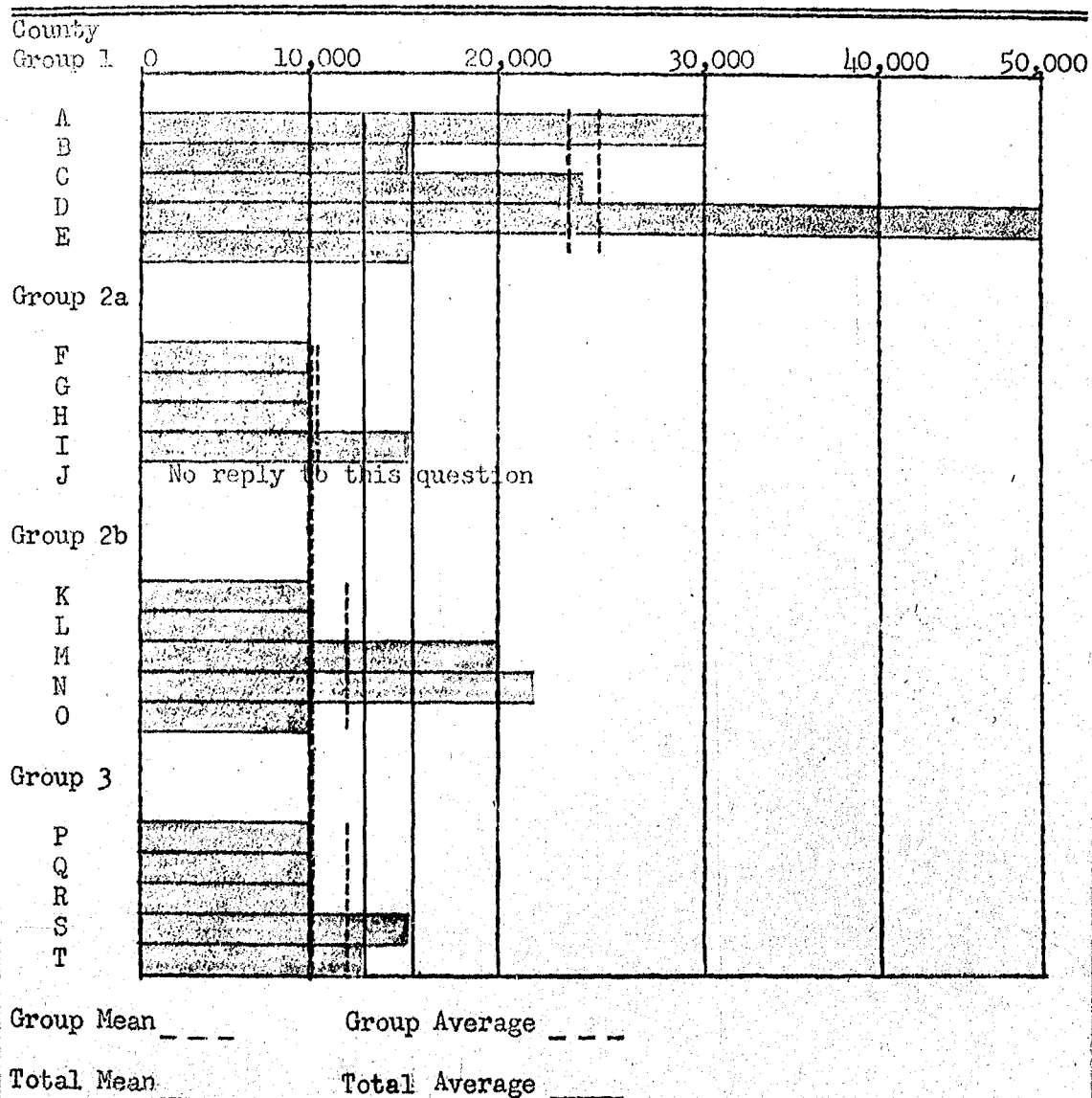
County	Should audio-visual services be provided or arranged for in every county by the office of the county superintendent of schools?		Should the audio-visual services be utilized by all districts within the county that do not provide their own?		If the inventory of materials is adequate, should the audio-visual department serve all medium and small sized districts?		Should the county superintendent contract with districts served for audio-visual services?	
	Yes	No	Yes	No	Yes	No	Yes	No
Group 1								
A	x		x		x		x	
B	x		x		x		x	
C	x		x		x		x	
D	x		x		x		x	
E	x		x		x		x	
Group 2a								
F	x		x		x		x	
G	x		x		x		x	
H	x		x		x		x	
I	x		x		x		x	
J	x		x		x		x	
Group 2b								
K	x		x		x		x	
L	x		x		x		x	
M	x		x		x		x	
N	x		x		x			x(1)
O	x		x		x			x(2)
Group 3								
P	x		x		x		x	
Q	x		x		x		x	
R	x		x		x		x	
S	x		x		x		x	
T	x		x		x		x	
Totals	20	0	20	0	20	0	18	2

(1) Should be mandatory thus eliminating contract.

(2) Should be set up like library services thus eliminating an annual contract.

TABLE II

WHAT SIZE (IN UNITS OF AVERAGE DAILY ATTENDANCE) SHOULD A DISTRICT BE PRIOR TO CONSIDERING THE PROVISION OF ITS OWN AUDIO-VISUAL SERVICES? GRADES K-12 OR 14



department depended on him for services it must require a district of even larger size. This caused him to select an amount larger than he was serving in the entire county or larger than the largest district he served. The mean for all counties studied was 13,000 units of A.D.A.; the average was approximately 16,000 units of A.D.A. The mean for all groups except the large-sized counties was 10,000 units of A.D.A. and the average about 12,000 units of A.D.A. In the large-sized counties the mean was 25,000 units of A.D.A. and the average was 27,000. This indicates that the presently accepted size of 10,000 is still acceptable but a larger service unit is certainly to be recommended.

Table III presents the responses obtained to the question of minimum financial support for an adequate program. Criterion 1c indicates \$1.50 per unit of A.D.A. as an amount which will provide adequate minimum support. This amount was exceeded by all counties. County M indicates \$1.75 was sufficient but all others stated \$2.50 per unit of A.D.A. or more was needed. It must be noted that the cost per unit of A.D.A. decreased with the size of the service unit.

The counties in group 1 varied from \$2.50 per unit of A.D.A. to \$4.00 per unit of A.D.A. with a mean of \$3.00 (see Table III). The average exceeded the mean by only \$.10.

TABLE III

WHAT SHOULD THE AUDIO-VISUAL SERVICE BUDGET BE PER UNIT OF
 AVERAGE DAILY ATTENDANCE IN ORDER THAT ADEQUATE MINIMUM
 AUDIO-VISUAL SERVICE MAY BE PROVIDED? GRADES K-12 OR 14

County	0	1	2	3	4	5	6	7	8
Group 1									
A									
B									
C									
D									
E									
Group 2a									
F									
G									
H									
I									
J									
Group 2b									
K									
L									
M									
N									
O									
Group 3									
P									
Q									
R									
S									
T									

Group Mean _____ Group Average _____

Total Mean _____ Total Average _____

The group 3 counties because of higher operational costs reported \$4.00 per unit of A.D.A. as a minimum amount and \$7.60 per unit of A.D.A. as a maximum. The mean for this group was \$6.00 per unit of A.D.A. and the average was but \$.17 less. The significant facts are that when considered on an A.D.A. basis, larger service units are much more economical to operate and secondly in no case was the \$1.50 per unit of A.D.A. amount now used supported. Based on these data the size of the service unit should definitely be considered before determining how much the cost of operation should be. On the basis of means and averages it is indicated that in the larger units \$3.00 per unit of A.D.A. is sufficient for an adequate minimum program. In the counties operating cooperative centers, group 2a, \$3.50 per unit of A.D.A. is required. In the medium sized counties operating a center to serve only the one county there appears a difference of \$.65 between the mean and the average. The mean for the group 2b counties is \$4.00 while the average was \$3.35 per unit of A.D.A. On the basis of the fact that three of the centers are spending \$4.00 or more per unit of A.D.A., an amount somewhere between the two amounts should be adequate for the counties in group 2b. Therefore, an amount of \$3.75 per unit of A.D.A. is recommended for counties in group 2b.

Table III also shows the mean for all counties studied is \$4.00 per unit of A.D.A. and the average is \$3.90. This indicates clearly that the \$1.50 per unit of A.D.A. stated in criterion 1c should be increased to either \$4.00 per unit of A.D.A. on a state-wide basis or that four amounts, one for each of the four groups based on size of the service unit, be established in the criterion.

Criterion 1d pertains to the desirability of entering into a contractual agreement with all districts served by the audio-visual service center. At the time this criterion was developed there was no legal necessity for such contracts. Now the statutes require such contracts. This criterion was tested, however, and 18 of the 20 directors agreed that contracts should be entered into between the centers and the districts (Table I, page 31). The other two stated that contract should not be necessary; only the billing of the districts served should be required.

The existing criteria do not indicate the most desirable factor to be considered in making charges for service. Present statutes require school districts contracting for audio-visual service from the office of the county superintendent of schools to pay for such service.

It was believed that a criterion should be included stating a satisfactory basis for charging participating districts. Table IV presents the responses to this question.

TABLE IV

WHAT SHOULD BE THE BASIS FOR DETERMINING
THE SHARE EACH DISTRICT SERVED SHALL
CONTRIBUTE TOWARDS PAYMENT OF THE
TOTAL AUDIO-VISUAL COSTS?

Basis	Frequency of Mention
Unit of Average Daily Attendance	12
Assessed Valuation of District	7
Class or Teacher Unit	7
Per School	1
Total District Income	1
Distance From Audio-Visual Service Center	1
Total	29

There were six suggested factors upon which charges could be based. Some directors preferred a combination of two or more of the six factors.

Using frequency of mention as the criterion for selecting the most acceptable factor, the unit of A.D.A. is the most desirable basis (Table IV, page 37). This becomes even more to be recommended when it is combined with the class or teacher unit which is generally in direct proportion to the average daily attendance. By combining the two factors the frequency of mention of 12 favoring units of A.D.A. and seven favoring class or teacher units makes a total of 19 responses out of a total of 29.

As state moneys are apportioned on the basis of A.D.A. it becomes increasingly important that contracts for audio-visual service should also be based upon this unit. Evidence presented in the preceding paragraph clearly indicates that criterion 1d should define the basis upon which the charges required by the contracts will be based. It is thus recommended that all district contracts with the office of the county superintendent of schools for audio-visual education be based on the units of average daily attendance taught in the contracting district.

II. CRITERION TWO

2. The county audio-visual department augments the instructional program of the schools served by stocking an adequate supply of audio-visual instructional materials and equipment.

a. The materials stocked include 16 mm. films, filmstrips, study prints, recordings, models, etc.

b. The following amounts of certain types of materials are stocked as a basic library (several duplicates of each title may be necessary to meet requests):

16 mm. films	450 titles
35 mm. filmstrips	1,000 titles
study print sets	200 titles
recordings--tape and disc	1,000 titles
models	as needed
charts	as needed

c. The audio-visual equipment stocked meets the needs of the county staff, experimental needs, and emergency needs of the schools served.

The interviewer found all county directors of the belief that it was a responsibility of the county audio-visual

service center to augment the instructional program of the schools served by stocking an adequate supply of materials and equipment (Table I, page 31). Therefore, no change is recommended in the basic criterion.

Table V indicates the kinds of materials that the jury of experts listed as those which should be stocked at the county level by the audio-visual service center.

In general, most directors were in agreement on what should be stocked as an adequate variety of materials. The frequency total shown at the bottom of Table V indicates a major difference of opinion concerning but five items. The five items which less than two-thirds of the directors believed necessary at the county level were 3½" x 4" slides, maps, dioramas, stereographs, and locally prepared resource kits.

The reasons given most often for not desiring 3½" x 4" slides at the county level were: most of the material is out-of-date; most of the material is available on stripfilm which is much easier to use; and the slides are made of glass which breaks, thus requiring special care in handling and high maintenance cost.

Maps were an item of much controversy (Table V). Thirteen of twenty directors questioned believed they should stock maps. The seven who did not believe they should be

TABLE V
MAJOR ITEMS OF MATERIAL STOCKED AT COUNTY LEVEL - MINIMUM QUANTITIES

COUNTY	16mm MP Films	16mm MP Films (Duplicates)	35mm Filmstrip	35mm Filmstrip (Duplicates)	2" x 2" Slide Sets	3 1/4" x 4" Slide Sets	Microslide Sets	Study Print Sets	Maps	Charts	Models	Realia	Dioramas	Stereographs	Tape Recordings	Disc Recordings	Resource Kits
Group 1																	
A	1800	9000	2000	18000	125	50	50	500	50	100	50	50	10	300	100	1500	20
B	2000	4000	2000	(b) 0	200	50	(c) 0	300	(c) 0	(a) 0	(c) 0	(c) 0	(c) 0	(a) 0	100	500	(a)
C	1500	2000	2500	3000	100	10	30	500	50	125	100	50	15	0	200	1500	(d)
D	1800	2000	3000	4500	100	0	(c) 0	500	(c) 0	100	60	(a) 100	0	(c) 0	400	(c) 0	(a)
E	1500	2000	2000	4000	300	100	15	500	(f) 50	50	200	100	25	50	300	3000	25
Group Mean	1800	2000	2000	4250	125	50	30	500	50	100	80	75	15	175	200	1500	23
Group Average	1720	3800	2300	7375	165	53	28	460	50	94	103	75	17	175	225	1625	23
Group 2a																	
F	2000	500	1500	800	30	0	12	250	25	20	50	20	15	0	250	1500	20
G	1000	300	2500	1200	40	15	25	300	(c) 0	100	100	(e) 300	0	0	350	1500	(d)
H	2500	750	1500	0	0	0	50	(c) 0	(c) 0	(c) 0	25	15	0	0	250	500	20
I	800	800	2000	3000	30	0	25	350	30	30	30	100	12	300	200	1000	50
J	1200	400	2250	600	100	0	100	250	(f) 50	(f) 50	50	200	50	100	250	500	50
Group Mean	1200	500	2000	1000	30	8	25	250	30	40	50	100	15	200	250	1000	35
Group Average	1500	570	1950	1400	50	15	46	285	35	50	51	127	26	200	220	1200	35
Group 2b																	
K	1000	2000	2000	1000	100	0	20	500	(f) 25	100	100	100	50	0	100	400	(d)
L	1200	200	2500	700	200	25	(c) 0	100	(h) 200	200	100	100	(g) 250	200	200	500	(d)
M	1000	300	1500	500	125	30	0	800	(f) 70	25	75	150	0	75	100	2500	(d)
N	1000	200	2500	300	100	50	20	500	(f) 20	50	50	100	5	0	125	1000	(d)
O	800	200	1000	4000	100	30	6	300	(c) 0	(c) 0	50	50	0	0	200	400	30
Group Mean	1000	200	2000	700	100	30	20	500	48	75	75	100	28	163	125	500	30
Group Average	1000	560	1900	1300	125	34	15	620	79	94	75	100	26	163	145	960	30
Group 3																	
P	600	110	1200	400	200	75	50	250	(c) 0	25	75	40	12	0	400	475	135
Q	600	75	1800	100	25	0	25	200	(f) 10	25	10	25	0	100	125	1500	20
R	760	125	2250	150	125	85	20	400	70	60	20	60	10	400	115	1400	(d)
S	900	200	2000	1000	100	0	5	200	(f) 15	100	75	50	12	200	200	1000	(d)
T	800	50	2000	150	25	25	25	250	(c) 0	(c) 0	15	50	12	200	150	1500	200
Group Mean	760	110	2000	150	100	75	25	250	15	42	20	50	12	200	150	1400	135
Group Average	732	112	1850	360	95	62	25	260	33	52	49	45	12	225	198	1175	118
Mean of Means	1100	350	2000	1350	100	42	25	375	40	58	63	88	15	188	175	1200	33
Average of Averages	1238	1248	2000	2781	110	41	29	406	50	72	70	87	22	191	197	1242	52
Frequency	20	20	20	18	19	12	16	19	13	16	19	19	13	10	20	19	13

(For remarks see page 42)

TABLE V (continued)

Remarks

- | | |
|---|---|
| a. Develop as needed. | f. Special high cost items |
| b. Pilot set only for small districts.
Large districts purchase their own. | g. Depends on ability to maintain. |
| c. Should be purchased by district. | h. Pilot set for staff use and district appraisal. |
| d. Not desired at county level. | i. Averages include only those counties whose policy is to stock these materials. |
| e. Includes mounted specimens. | |

stocked at the county level agreed the responsibility for providing maps was a district responsibility. Seven other directors stated that the maps stocked should be of a special or high cost nature which would not otherwise be available to teachers.

One director believed the county audio-visual center should stock a pilot set of about two hundred maps in order that districts could try them and then select the ones most desirable for purchase. This director stated that because the county was semi-isolated it became a necessary service.

Concerning dioramas, thirteen of the twenty directors believed they should be stocked (Table V, page 41). Of the thirteen, one believed only those that could be maintained should be kept on hand. One director believed that districts should provide their own. The remaining six believed the primary educational value of dioramas was in the research and construction phases necessary in creating them. Therefore, prepared dioramas were not justified at county level.

Stereographs, which includes View-master reels, because of their nature, are an item which only one pupil may view at a time. They are very popular in counties with many small schools containing multigraded classrooms. Their value in this situation is unquestioned because many times very few children are studying the same subject area. For larger

classes where all pupils are of one grade level the value decreases.

The opinion of the directors questioned was evenly divided on stereographs. Ten believed that they should stock them and ten believed they should not (Table V, page 41).

Locally prepared resource kits containing instructional materials in various subject areas were favored by thirteen of the twenty directors (Table V, page 41). The seven not in favor of stocking the kits believed that this was a district or teacher responsibility. Two of the thirteen in favor of the kits did not indicate the number of titles necessary to provide adequate coverage to the curriculum. These two believed that a quantity should be developed and this quantity should be an outgrowth of needs as expressed by teachers and curriculum committees.

Based on the preceding discussion and the opinions expressed by the respondent, it is recommended that all items listed on Table V, page 41, be included as the basic list of materials when applying criterion 2a to county audio-visual service centers.

Table V, page 41, also presents the quantities in numbers of titles which they thought necessary in order that the curriculum of their respective counties might be adequately covered. In the presentation of the data on quantity it must be noted that the number of different titles

was requested and only in the case of motion picture and filmstrip was the number of duplicates requested. The amounts shown, therefore, represent the number of titles necessary to adequately cover the curriculum of the respective counties and not the total number that should be stocked.

In computing the averages and the means, the investigator did not include answers of zero. The reason for omitting zero answers was that in presenting answers of opinion nature the local situation, geographic or philosophic, influenced the opinion. In the over-all analysis it was the opinion of the investigator that when the consensus of opinion deemed an item worthy of stocking, only the averages and means of those desiring the item should be considered. This is to say, if an item is required by the local situation, this is the extent to which it should be stocked.

16 mm. motion pictures. Table V, page 41, shows that the average number of motion picture titles for all four groups to be 1,238 titles and the mean of all four groups to be 1,100. This indicates that in an average California county about 1,200 motion picture titles are necessary to give adequate coverage to the curriculum.

In comparing the average mean of the four groups of counties shown in Table V, page 41, it is noted that the

group 1 counties' average of 1,720 titles exceeds the over-all mean of 1,238 titles by 482 titles (Table V, page 41). The mean for all four groups is 1,100 titles while that for group 1 is 1,800 titles, exceeding the over-all mean by 700 titles.

To explain the difference it is necessary to examine the service unit. The group 1 counties are heavily populated with many large districts, each of which designs its own course of study that in turn affects the curriculum. Secondly, there is no truly average county in California. Thirdly, small high schools and junior colleges found in the less sparsely settled counties do not offer complete coverage of all subject areas. It becomes obvious that the larger service centers require more titles to provide a completely adequate curriculum coverage. As the average number reported is 1,720 and the reported mean is 1,800 (Table V, page 41), it is recommended that Criterion 2b contain 1,800 16 mm. film titles when applied to county audio-visual service centers serving enrollments of over 30,000 pupils.

Group 2a counties are those whose centers are serving two or more counties. The fact that the reported average of 1,500 titles exceeded the over-all average of 1,238 titles by 262 titles is not beyond reason (Table V, page 41). A broader area to be covered is brought about by reason of two or more counties present two or more courses of study. This

increases the number of titles required in providing an adequate minimum coverage.

The range of answers reported by the respondents in the group 2a counties was extreme (Table V, page 41). A low of 800 and a high of 2,500 varied so far from the mean and average of the other three that the validity of the responses is questionable. However, the mean and average for this group compares favorably with group 2b counties which serve the same enrollments. On the basis of the latter comparison, it is recommended that Criterion 2b contain the amount of 1,350 16 mm. motion picture film titles when being applied to county audio-visual service centers serving 5,000 to 29,999 pupils in two or more counties.

The group 2b counties have fewer courses of study to satisfy, the mean and average are both 1,000 titles. This compares very favorably with the over-all mean and averages. All responses were consistent with a range of between 800 and 1,200 titles (Table V, page 41). It is, therefore, recommended that Criterion 2b contain the quantity of 1,000 16 mm. motion picture titles when applied to counties serving 5,000 to 29,999 pupils all in one county.

Group 3 counties were very consistent in their responses (Table V, page 41). The range was between 600 and 900 titles. Due to the many small schools the curriculum is generally narrower, thus requiring fewer titles. The mean

for this group was 760 titles and the average 732. They are somewhat below the mean and average for all counties studied but based on the evidence gathered the recommendation is that 750 titles be used in Criterion 2b for 16 mm. motion pictures when this Criterion is applied to county audio-visual service centers serving counties with enrollments of less than 5,000 pupils.

16 mm. motion picture duplicate titles. In order to establish a relationship between the number of duplicates and a particular group, one must consider the enrollment, delivery system, and the booking period. Means and averages have little value except to lend minor support to the conclusions.

By taking the enrollments to the nearest 1,000 pupils in all cases except the group 3 counties which are 4,999 and below, it appears that for each 1,000 pupils about 70 duplicate titles are required in order that teachers may receive the title requested while it is still of maximum educational value. For the smaller centers where enrollments are below 5,000, approximately 25 duplicates per 1,000 pupils served appears adequate. It is recommended that Criterion 2b include the ratio of 70 duplicate 16 mm. motion picture titles per 1,000 pupils served in counties of the group 1, 2a and 2b, and 25 duplicate 16 mm. motion picture

titles when being applied to group 3 counties.

35 mm. filmstrips. Table V, page 41, indicates that there was much more agreement among the twenty directors interviewed concerning the number of filmstrip titles required to give adequate minimum augmentation of the curriculum. Each of the four groups of counties reported a mean of 2,000 titles, but the range and average of responses varied with each group.

Group 1 counties' average exceeded the means by 300 titles. The range was from 2,000 to 3,000 titles (Table V, page 41). As two counties exceeded 2,000 titles, it is recommended that the average reported requirement be used for the group 1 counties and that the amount of 2,300 titles be used in Criterion 2b for 35 mm. filmstrips when applying this Criterion to counties serving over 30,000 pupils.

The county director of group 2a counties gave between 1,500 and 2,500 titles as their minimum 35 mm. filmstrip requirement (Table V, page 41). The mean for this group was 2,000 and the average 1,950 titles. As these two amounts are so nearly equal, the recommendation is that 2,000 filmstrip titles be included in Criterion 2b for 35 mm. filmstrip titles when applying this Criterion to counties serving over 5,000 and less than 29,999 pupils in two or more counties.

Although the range for group 2b counties was between 1,000 and 2,500 titles, a difference of 1,500 titles between the lowest and highest value reported, the average for this group was 1,900 titles and the mean 2,000 titles (Table V, page 41). In comparing the values reported in this group with the values reported in the other three groups it is believed that the low of 1,000 titles is not supported. Therefore, the average for the group is lower than it is reasonable to believe true. Based on this, the mean for the group is the value recommended for placement in Criterion 2b when evaluating filmstrips for county audio-visual centers serving over 5,000 and less than 29,999 pupils all located in one county. With one exception, it will be noted that the range in the group 3 counties was very narrow. The reported low of 1,200 titles as the minimum number of 35 mm. filmstrip titles needed in counties of this enrollment is unsupported. The average is reduced accordingly. It is, therefore, necessary to recommend the mean value of 2,000 titles reported by this group for inclusion in Criterion 2b for 35 mm. filmstrips when applying this Criterion to county audio-visual centers serving less than 5,000 pupils.

35 mm. filmstrip duplicate titles. When 35 mm. duplicate titles are considered, the same factors become evident that were discussed for 16 mm. motion picture

duplicate titles. Each county must be evaluated on the basis of its enrollment. Mean and average amounts lose their value due to the fact the duplicate title must be purchased to meet the needs of the schools served. With decreased enrollment there is a decrease in demand and less duplicates are required.

Most of the group 1 counties indicate 35 mm. filmstrip duplicate titles are needed to the extent of 150 duplicate titles for each 1,000 enrollment served. In group 2a counties a ratio of approximately 120 duplicates for each 1,000 enrollment served are required. Only 100 duplicate titles for each 1,000 enrollment are needed in group 2b counties. The ratio drops to about 40 duplicate titles for each 1,000 pupils in the group 3 counties. These ratios were developed by comparing the average enrollments served with the average number of duplicate titles shown in Table V, page 41, for each group. It is recommended that the ratios stated above be included in Criterion 2b for the purpose of determining the number of duplicate 35 mm. filmstrip titles needed to provide an adequate minimum quantity.

2" x 2" slide sets. In discussing the purpose of stocking 2" x 2" slide sets at the county level most directors indicated that the chief purpose was to cover local areas not covered by commercial producers. The average

numbers reported as necessary by all counties was 110 sets. This amount was slightly less than the mean of 100 (Table V, page 41).

Group 2a county audio-visual centers are serving more than one county and would be less concerned with meeting purely local needs. As a result, the reported mean of 30 sets and average of 50 sets are both far below those reported by the other three county groups (Table V, page 41). However, as 14 of 20 directors stated that an amount in excess of 100 titles was required, it appears that the quantity of 100 titles is to be recommended as the Criterion to be included when applying Criterion 2b to all centers in evaluating the stock of 2" x 2" slide sets.

3½" x 4" slide sets. Table V, page 41, shows that eight of the twenty directors interviewed stated that 3½" x 4" slides were no longer desirable at the county level. Some of the reasons have been given earlier in this chapter. The responses varied from zero to 100 but the mean was but 42 and the average 41 for all counties studied. As the trend is evidently away from this audio-visual media, it is recommended that 40 titles of 3½" x 4" slide sets be considered the minimum quantity necessary when evaluating all county audio-visual service centers.

Microslide sets. Microscopic projectors are becoming more popular, replacing the individual microscope in audio-visual centers. The potential of this instructional device has not been fully developed. Sixteen directors indicated they believed prepared microslide sets should be stocked at the county level (Table V, page 41). As this is a comparatively new trend, for the present the mean of 25 titles is recommended as the number of sets to be used when applying Criterion 2b to all county audio-visual service centers.

Study print sets. Art reproductions were included in this category. A set was defined when interviewing the directors as one or more, depending upon the subject. Generally, a set did not include more than 10 or 12 prints. If a set contained more than 12 prints and if logically possible, the set was broken down into two or more sets of a more specific nature.

Group 1 and group 2b county directors indicated approximately 500 set titles necessary but group 2a and group 2b county directors favored an amount near to 250 titles (Table V, page 41). The directors were quite consistent within the two factions. Therefore, it is recommended that a quantity of 500 titles be used when applying Criterion 2b to study print titles in evaluating county-level service in group 1 and group 2b counties. It is

further recommended that a quantity of 250 titles be used when applying Criterion 2b to group 2a and group 3 counties.

Maps. As discussed earlier in this chapter, maps were an item of controversy. Of the 13 directors believing they should be stocked at county level, seven believed that only those of a special, high-cost nature should be stocked. Another director believed that the county audio-visual service center should stock a pilot set of all kinds generally available. This set would be used by the county staff and also by the districts served for appraisal purposes. The latter is a special situation, however.

Since the desirability of stocking maps is a questionable one, it is recommended that only special, high-cost items, which schools need but normally would not purchase because of their limited use, be stocked at the county level. The quantity of map titles needed to meet this need appears to be about 40. This amount was the mean for all counties studied (Table V, page 41). The average for all counties reporting maps as a necessary item of material was 50 map titles. The mean and average for each group compares favorably with the quantity of 40 titles.

It is recommended that the quantity of 40 different map titles be used in Criterion 2b for the purpose of evaluating the quantity of maps stocked for all counties

regardless of enrollment served.

Charts. The improvement in quality and increase in quantity of good charts is clearly indicated by the responses received to the questions on this subject. Sixteen of the twenty directors interviewed believed they should be stocked at county level and the remaining four directors believed them necessary but thought they should be purchased at local level (Table V, page 41).

Group 1 counties indicated between 50 and 125 chart titles were necessary with a mean of 100 titles and an average of 94 titles (Table V, page 41). As the mean and average are nearly equal, it is recommended that 100 titles be used when applying Criterion 2b to counties of this state.

Group 2a counties reported quantities ranging from 20 to 100 chart titles as the necessary amount (Table V, page 41). The mean for this group was only 40 and the average 50 titles. Charts were one of many items which those counties operating cooperative centers serving two or more counties responded to quite differently from the counties operating a center to serve just one county. A quantity of 50 chart titles is indicated as an approximate number needed. This is much lower than the amounts indicated by the other three county groups. Since the board of experts so indicate, it is recommended that 50 chart titles be used when applying

Criterion 2b to counties serving between 5,000 and 29,999 pupils in two or more counties.

In group 2b counties, Table V, page 41, indicates that approximately 85 chart titles are necessary. This amount is the average of 94 titles shown as the average for the group and 75 titles shown as the mean. One county reported 200 chart titles as the needed amount but this quantity did not have support from any other county. The reduction of the four mentioned amount to one more easily justified would reduce the average for the group. For this reason, an amount between the average and the mean for the group is suggested and an average of the two was selected.

For counties serving an enrollment of between 5,000 and 29,999 pupils in one county, it is recommended that 85 chart titles be used as the minimum quantity necessary and that this amount be included in Criterion 2b when applying it to audio-visual centers in counties of this size.

According to Table V, page 41, county directors in group 3 counties indicated between 25 and 100 chart titles were needed at county level. The mean for this group was 42 and the average 52. The range in responses varied from 25 to 100 titles. This indicates that about 50 chart titles are needed in counties whose centers serve less than 4,999 pupils. Therefore, it is recommended that 50 chart titles be included in Criterion 2b when using this Criterion to evaluate

services in counties of this size.

Models. Table V, page 41, shows only one county out of the twenty surveyed indicated models were not necessary at county level. In this county it was believed models should be purchased at the local level. Quantities reported in this category ranged from a low of 10 reported in a group 3 county to a high of 200 kinds of models in a group 1 county. The mean for all counties was 63 and the average 70 model titles. Fourteen responses indicated that an amount of over 50 different kinds of models was necessary. It is recommended that the average of 70 be used for all counties when applying the Criterion 2b to models in evaluating services at the county level.

Realia. Included in this category were mounted specimens in addition to the many other items usually classified as realia. It is interesting to note that the middle two groups of counties believed larger quantities were necessary than the largest county centers. The counties in group 1 had a mean and average of 75 items of realia, whereas group 2a and group 2b counties had means of 100 titles and averages of 127 and 100, respectively (Table V, page 41). In the group 3 counties the average dropped to 45 and the mean to 50 model titles.

Based on the opinions shown above, it is indicated that 75 kinds of realia be stocked in county audio-visual service centers serving 30,000 pupils or more in one county. One hundred different items of realia should be stocked in counties whose centers serve 5,000 to 29,999 pupils in one or more counties. In counties where the center serves fewer than 4,999 pupils, 50 different kinds of realia should be stocked. It is, therefore, recommended that Criterion 2b include these quantities.

Dioramas. It has been mentioned previously that dioramas were an item where opinion differed. According to Table V, page 41, thirteen directors believed them of value at the county level. Quantities believed necessary varied from 5 to 50 kinds with an over-all mean of 15 kinds and an average of 22 kinds. Only two directors in group 2b gave a necessary quantity. A third director in this group stated that the ability to maintain and store the dioramas was a determining factor. This group also submitted the high and low response to this question. Disregarding this group it will be noticed that averages and means indicate from twelve to fifteen dioramas as the necessary quantity. For this reason, it is recommended that Criterion 2b include the quantity of 15 different dioramas types as a minimum quantity necessary for all county audio-visual centers regardless of

the enrollment served.

Stereographs. Fewer directors included this item of instructional material as a necessary one to stock at county level than any other. Table V, page 41, indicates only ten were in favor of stocking them. The range in number of titles was from 50 titles to 400 titles. Within the range of 100 to 300 titles will be found 70 per cent of the responses. It will also be noted that the mean and average for all four groups is about 190. Therefore, it is recommended that if stereographs are stocked at county level 190 titles should be considered as the minimum quantity necessary to give adequate service and that this quantity be included in Criterion 2b.

Tape recordings. According to Table V, the mean for all four counties studied was 197 tape recordings. Five directors indicated 200 recordings were necessary, two indicated 250 recordings were necessary, and four stated 300 or more were required. This indicates that the majority of the directors interviewed believe a quantity in excess of 200 tape recordings. Therefore, it is believed that a minimum quantity of 200 tape recordings should be included in Criterion 2b for all county centers regardless of enrollment served.

Disc recordings. Table V, page 41, shows that although the mean and average for the four groups is about 250 recordings less, eight directors indicated that 1,500 or more disc recording titles were necessary to give adequate service in this area. Six other directors stated that 600 or fewer disc recordings were enough to give adequate service. With such a range and grouping of opinions, it is recommended that the amount of 1,200 disc recordings be used in Criterion 2b for all counties regardless of size. This amount is the mean for all four groups and is only 42 less than the average of all four groups.

Resource kits. This category includes all kits of instructional materials collected or prepared locally and distributed by the county audio-visual service center. Table V, page 41, shows thirteen directors believed such kits should be distributed from the county level, the remaining seven believed the preparation and distribution of the kits to be a local problem. One of the thirteen directors did not give a quantity in that it was believed need determined the number and any value given would have little meaning.

The counties in group 1 reporting on this item indicated about 25 as the necessary quantity. Group 2a and 2b counties stated about 30-35 as shown by the means and averages. However, the popularity of this category was most

pronounced in the smaller centers of the group 3 counties. In the latter group the average was 118 and the mean 135 titles.

On the basis of data collected, it is recommended that criterion 2b include numbers of resource kits as indicated in preceding paragraph.

Criterion 2c is concerned with the needs to be met by stocking equipment and presently states that they are the needs of the county staff, experimental needs, and emergency needs of the schools served.

Table VI indicates three additional needs which should be included. The first two of these are not legally permissible by existing statutes. By present statutes it is not permissible to provide items of equipment having limited use to small schools which have the need, even though necessary, if equal educational opportunities are to be had by all children. The small school would have difficulty justifying the purchase of such items as an opaque projector, an overhead projector, a projection microscope or photographic equipment to list but some of the equipment. However, Table VI clearly shows 19 of the 20 directors interviewed were of the opinion that county audio-visual service centers should be permitted to provide the schools with this equipment.

The second need which 16 directors thought county

TABLE VI

NEEDS MET BY COUNTY AUDIO-VISUAL SERVICE CENTER
THROUGH STOCKING EQUIPMENT

County	Needs of County Superintendent of Schools Staff	Experimental Work in the Field of Audio-Visual Education	Emergency Needs of Schools Served by County Audio- Visual Center	Special Needs of Small Schools Served by County Audio-Visual Center	Public Service to Non-Educational Agencies	Local Production of Audio-Visual Materials	Special High-Cost Items
Group 1							
A	x	x	x	x	x	x	
B	x	x	x	x	x	x	
C	x	x	x	x	x(a)	x	
D	x	x	x	x	x	x	
E	x	x	x	x	x	x	x
Group 2a							
F	x	x	x	x		x	
G	x	x	x	x	x	x	
H	x	x	x	x		x	
I	x	x	x	x	x	x	
J	x	x	x	x	x	x	
Group 2b							
K	x	x	x	x	x(a)	x	
L	x	x	x	x	x	x	
M	x	x	x			x	
N	x	x	x	x	x(b)	x	
O	x	x	x	x		x	
Group 3							
P	x	x	x	x	x	x	
Q	x	x	x	x	x	x	
R	x	x	x	x	x	x	
S	x	x	x	x	x	x	
T	x	x	x	x	x	x	
Frequency of Motion	20	20	20	19	16	20	1

Remarks:

- (a) Limited to other governmental agencies.
(b) Limited-ease case based on merits.

audio-visual service centers should be permitted to meet was through the loan of equipment to non-educational agencies. Their thought was most material shown is educational in one degree or another. Most directors believed control must be exercised in this matter and two directors specified that this loan of equipment should be to other governmental agencies. Currently no loan of equipment is permitted.

The third need which should be included in the needs to be satisfied by stocking equipment at the county level is that of providing equipment and facilities for the local production of materials where commercially produced materials do not suffice.

In order to meet the needs specified above the directors listed all major items of equipment. Table VII presents the equipment listed for educational purposes and the frequency of mention by county group and the total frequency of mention. Table VIII, page 65, lists the equipment stocked for maintenance purposes and here again the frequency of mention is given by county groups and as a total frequency of mention. Table IX, page 66, presents all items shown on Table VII which had a frequency of mention of ten or more. Table IX, page 66, shows the number each county director believed necessary in order to provide for the needs for equipment in the county where employed. Each item is discussed and recommendations are as follows:

TABLE VII

SUGGESTED EQUIPMENT THAT SHOULD BE STOCKED BY AGENCY AUDIO-VISUAL SERVICE
CENTERS FOR EDUCATIONAL PURPOSES

	Frequency of Mention				Total
	Group 1	Group 2a	Group 2b	Group 3	
1. Cameras					
16 mm Motion Picture Cameras	3	3	1	2	9
35 mm Still Picture Cameras	5	5	4	5	19
35 mm Stereo Cameras	1	-	-	-	1
2-1/4" x 2-1/4" Reflex Type	2	-	-	-	2
2-1/4" x 3-1/4" Press Type	2	1	2	2	7
3-1/4" x 4" Press Type	-	-	-	1	1
4" x 5" Press Type	4	3	3	2	12
2. Projectors					
16 mm Motion Picture Projectors	5	5	5	5	20
35 mm - 2" x 2" Slide Combination Projector	5	5	5	5	20
3-1/4" x 4" Slide Projectors	5	3	4	2	14
Microscopic Projectors	5	5	4	4	18
Opaque Projectors	5	5	5	5	20
Overhead Projectors	5	5	5	5	20
Viewmaster Reel Projectors	-	-	-	1	1
3. Audio Equipment					
Audiometers	1	-	-	-	1
Audio Mixers	2	2	1	-	5
Microphones (stand, desk and lapel)	3	5	2	3	13
Public Address Systems (Portable including electronic megaphones)	3	5	2	3	13
Radios	5	5	5	4	19
Record and Transcription Players	5	5	5	5	20
Recorders, Disc	2	2	-	1	5
Recorders, Tape	5	5	5	5	20
Recording Device (two tapes, one disc and radio in single console)	1	-	-	-	1
Tape Recording Players	1	-	-	1	2
4. Visual Equipment					
Microfilm Readers	1	-	-	-	1
Microscopes	3	1	1	2	7
Reading Devices (Tachistoscope, controlled span, pacer)	2	-	-	-	2
Screens, Projection	5	5	5	5	20
Table Viewers, 16 mm Motion Picture	1	-	-	-	1
Table Viewers, 35 mm Filmstrip	1	-	1	1	3
Table Viewers, 2" x 2" Slides	1	-	1	1	3
Viewmaster Viewers	-	-	-	1	1
5. Miscellaneous					
Autoharp	-	-	1	-	1
Dry Mount Press	5	4	2	5	16
Kiln, small, electric	-	1	1	-	2
Ozalid Process Equipment	-	-	1	-	1
Paper Cutter, large, heavy duty	-	-	1	-	1
Photographic Laboratory (with film tanks, washer, dryer, printer, enlarger)	-	-	1	-	1
Projector Tables	1	-	-	-	1
Spot Lights, small, portable	-	-	1	-	1
Television Receiver	5	4	3	3	15
Typewriter, Primary	1	-	1	1	3

TABLE VIII

SUGGESTED EQUIPMENT THAT SHOULD BE STOCKED BY COUNTY AUDIO-VISUAL
SERVICE CENTERS FOR MAINTENANCE PURPOSES

1. Equipment Maintenance	<u>Group 1</u>	<u>Group 2a</u>	<u>Group 2b</u>	<u>Group 3</u>	<u>Total</u>
Oscilloscope	1	-	-	-	1
Signal Generator	1	-	-	-	1
Solder Gun	4	2	-	1	7
Tool Set (tools as needed)	4	2	-	1	7
Tube Test Set	4	2	-	1	7
Volt-Ohm Meter	4	2	-	1	7
2. Film Maintenance					
Cleaner, 35 mm Filmstrip	5	5	3	1	14
Cleaner and Inspector, 16mm Film (Harwald or equivalent)	5	5	4	1	15
Rewind Equipment, power driven	5	5	5	5	20
Splicer, 16mm Film	5	5	5	5	20
Splicer, 35mm Film	5	5	5	5	20

TABLE IX
MAJOR ITEMS OF EQUIPMENT STOCKED AT COUNTY-LEVEL

County		35mm Still Cameras	4" x 5" Press Camera	16mm Motion Picture Projectors	35mm 2" x 2" Slide Projectors	3-1/4" x 4" Slide Projectors	Microscopic Projectors	Opaque Projectors	Overhead Projectors	Microphones--All Types	Public Address Systems	Radios	Record and Transcription Players	Tape Recorders	Screen, Projection	Dry Mount Press	Television Receiver
Group 1	A	2	2	20	25	8	8	10	8	8	8	8	13	20	15	1	8
	B	4	1	15	20	4	8	8	8	8	8	8	13	20	15	1	8
	C	1	1	4	4	1	1	2	2	8	1	1	4	8	8	1	1
	D	1	1	8	8	2	2	8	3	8	8	8	8	8	8	1	1
	E	1	1	8	15	8	8	8	1	15	8	2	15	15	10	1	1
Group Mean		1	1	8	16	2	2	4	3	8	8	2	13	15	10	1	1
Group Average		2	1	11	15	3	3	5	3	7	4	3	11	11	10	1	1
Group 2a	F	1	-	5	5	-	3	3	1	8	2	2	8	8	8	1	1
	G	1	1	6	4	1	1	3	1	1	1	1	8	8	4	1	1
	H	1	1	10	6	2	2	8	4	1	1	8	7	8	4	1	2
	I	1	-	5	5	-	2	2	1	2	2	1	8	8	8	1	1
	J	1	1	9	5	1	2	2	1	4	2	1	8	8	8	1	1
Group Mean		1	1	6	5	1	2	3	1	2	2	1	5	5	4	1	1
Group Average		1	1	7	5	1	2	3	2	2	2	2	5	5	4	1	1
Group 2b	K	-	-	5	5	1	1	1	1	-	-	1	3	4	8	1	1
	L	2	2	12	12	1	-	2	2	5	5	3	5	10	12	1	1
	M	1	1	6	6	3	2	2	2	-	-	1	6	3	8	1	1
	N	1	1	4	6	1	2	5	2	-	-	1	10	5	5	1	1
	O	1	-	10	8	2	2	5	1	2	2	1	6	6	3	1	2
Group Mean		1	1	6	6	1	2	2	2	4	4	1	6	5	6	1	1
Group Average		1	1	7	7	2	2	3	2	4	4	1	6	6	7	1	1
Group 3	P	1	1	4	4	-	-	2	1	1	1	1	2	6	4	1	1
	Q	1	-	2	2	-	1	3	1	1	1	1	2	3	3	1	1
	R	1	-	6	3	4	2	4	1	4	1	13	14	6	5	1	1
	S	1	1	3	3	-	3	4	2	-	-	(a)	3	3	3	1	1
	T	1	-	4	3	1	1	2	1	-	-	1	3	3	4	1	1
Group Mean		1	1	4	3	3	2	3	1	1	1	1	3	3	4	1	1
Group Average		1	1	4	3	3	2	3	1	2	1	4	5	4	4	1	1
Mean of Means		1	1	6	7	2	2	3	2	3	3	1	5	5	6	1	1
Average of Averages		1	1	7	8	2	2	4	2	4	3	3	7	6	6	1	1
Frequency		19	12	20	20	15	18	20	20	13	13	19	20	20	20	16	15

a. Radio reception not possible in most of this county during daylight hours.

16 mm. motion picture cameras. Table VII, page 64, indicates that county audio-visual service center directors had difficulty justifying this item of equipment. As shown, only nine directors favored the stocking of motion picture cameras. Of the nine directors, three were in the largest county centers and three were in the centers serving two or more counties. The value of the 16 mm. motion picture camera as far as need is concerned is apparently only to the larger centers and even there it is not shown conclusively. As ten or more directors did not favor the stocking, it is not considered a major item of equipment so it does not appear on Table IX, page 66. Since the majority of the directors of programs in the group 1 and group 2a counties favor the item, it is recommended that it be included as a major item of equipment if needed but not included on the list of major items of equipment for all counties.

35 mm. still picture cameras. Nineteen of the twenty directors questioned believed this piece of equipment should be stocked. Table IX, page 66, indicates two cameras of this type necessary in the group 1 counties and one is sufficient to meet the needs of all other counties.

4" x 5" press type and other still picture cameras. Table IX, page 66, shows all directors indicated some other type of still picture camera other than the 35 mm. camera

was needed. Twelve indicated a 4" x 5" camera met most needs, others preferred smaller sizes. There was only one mention of a stereo camera so this item should receive no further consideration. Common agreement was shown on a press type, however, because of its flexibility. By use of adapters, roll film, cut film, or film packs can be used. The only disagreement appeared in what size was preferred. Since most favored the 4" x 5" press type, Table IX, page 66, supports the inclusion of one such camera on the inventory of all county service center lists of major items of equipment needed regardless of county groups.

16 mm. projectors. Table VII, page 64, shows all directors interviewed stated 16 mm. projectors were necessary at the county level. As the staff of the county superintendent increases in size with the enrollment to some degree (see Appendix F, page 156, Staffing Pattern for Supervision of Instruction), the need for more equipment to meet staff needs is in direct proportion to staff size. According to Table IX, page 66, an average of seven and a mean of six projectors prevailed in all county groups except group 1. In the group 1 counties a low of eight projectors and a high of twenty is reported. The average of eleven and the mean of eight projectors indicates more equipment is required in the larger county centers. The emergency loan requirements

also increase with the number of schools served. Therefore, it is recommended that seven projectors be included as the minimum number all county audio-visual centers stock except for those counties serving over 30,000 units of A.D.A. which should have a minimum of ten 16 mm. motion picture projectors.

35 mm. 2" x 2" slide and stripfilm projectors. Again complete agreement was in evidence in regards to the stocking of this item (Table VII, page 64). However, Table IX, page 66, shows a definite difference between county groups concerning the number of these machines necessary to meet the requirements placed on the service centers. In group 3 counties, the mean and the average was three projectors. In the group 2b counties a mean of six and an average of seven projectors was found. Group 2a counties reported an average and a mean of five. In the group 1 counties, the mean climbed to sixteen projectors and the average reached fifteen projectors of this type. Since the mean and average of each group was approximately equal, it is recommended that the average of the two amounts be incorporated into the criterion as means of evaluating county audio-visual service centers. The quantities would be as follows: sixteen 35 mm. 2" x 2" slide and stripfilm projectors for group 1 counties; five 35 mm. 2" x 2" slide and stripfilm projectors for group 2a counties; seven 35 mm. 2" x 2" slide and stripfilm projectors

for group 2b counties, and three 35 mm. 2" x 2" slide and stripfilm projectors for group 3 counties.

3½" x 4" slide projectors. The use of this particular item of equipment has decreased greatly in recent years. This was evident in the section of Table VII, page 64, and Table IX, page 66, devoted to material. Many centers no longer stock or desire to stock slides of this size. As a result, the averages and means were about two for all groups. The mean of the means and the average of the averages indicate this fact also. Therefore, it is recommended that two 3½" x 4" slide projectors be considered as minimum number to be stocked by all counties regardless of size if sufficient material is stocked to justify. If material is not stocked, the projector should not be stocked.

Microscopic projectors. Table VII, page 64, shows eighteen directors of the twenty questioned believed microscopic projectors should be owned at county level. Table IX, page 66, shows the mean and average of all groups approached two and as nearly all directors believed this a necessary item it is recommended the two microscopic projectors be stocked at county level by all counties regardless of size.

Opaque projectors. Although all twenty directors stated this was definitely an item of equipment necessary at county level (Table VII, page 64), the number stated as necessary varied from one to ten (Table IX, page 66). In all groups except group 1 the average of the mean and the average indicated three should be stocked. In group 1 the amount indicated approached five. It is, therefore, recommended that Criterion 2 include five opaque projectors when being applied to group 1 counties, and three when being applied to all others.

Overhead projectors. Table VII, page 64, shows all twenty directors believed overhead projectors should be an item of equipment stocked by county audio-visual service centers. In Table IX, page 66, group 1 counties indicated three such projectors were needed to provide minimum service. Group 2a and group 2b counties indicated two overhead projectors were necessary to meet their requirements, whereas group 3 counties stated one was sufficient for their needs. Criterion 2c should include three overhead projectors as a minimum amount to be stocked by a group 1 county, two overhead projectors as a minimum amount to be stocked by a group 2a and 2b county, and one overhead projector as the minimum number to be stocked by a group 3 county.

Viewmaster projectors. These were considered necessary only by one director. Therefore, it is not recommended as an item of equipment to be stocked at county level (Table VII, page 64).

Audiometers. Since this is primarily an instrument for measuring hearing loss and since it should only be used by a trained audiometerist, it is not recommended as an item to be stocked by a county audio-visual center. Audiometers should be in the hands of school health personnel. Only one director was of the opinion that the audio-visual service center should stock them (Table VII, page 64).

Audio-mixers. An audio-mixer is a special purpose piece of equipment used to balance input into a tape recorder or public address system. It is a necessary item of equipment when several microphones are being used to cover a panel presentation. According to Table VII, page 64, only one director believed that it was necessary to stock such an item so it is not recommended that audio-mixers be generally stocked at county level.

Microphones. This includes all microphones other than those which are an integral component of a major piece of equipment such as a tape recorder. Table VII, page 64, shows additional microphones to meet special situation

requirements were thought to be essential items of equipment to be stocked at county level by thirteen of the twenty directors questioned. There was a positive correlation between microphones and public address systems which is the next kind of equipment to be discussed. The indications are that if public address systems are stocked, a minimum of one microphone per public address system is a necessity.

According to Table IX, page 66, the average number of microphones required by group 1 counties was seven. For group 2a counties two were required. The directors in the group 2b counties stated that four were required to meet their needs but the group 3 mean was only one. It is recommended that the above quantities be incorporated into Criterion 2c as minimum quantities when applying this criterion to the respective county sizes indicated.

Public address systems. (Including electronic megaphones.) Table VII, page 64, shows public address systems of a portable nature were reported as a necessary item of equipment by thirteen directors. According to Table IX, page 66, group 1 county directors indicated five public address systems were necessary to satisfy their needs. Two public address systems were shown as enough for group 2a counties but group 2b counties reported a need for four such units. The group 3 counties indicated only one public

address system was required to meet their needs. It is recommended that Criterion 2c be modified to include these quantities.

Radios. Table VII, page 64, shows that all directors believed radios should be stocked at county level for the purpose of monitoring educational broadcasts. One stated that radios were not practical in the county where he was employed because reception was impossible during daylight hours; therefore, he did not indicate a need. One director reported a need for thirteen radios, but this amount was not supported by any other directors so it is to be disregarded (Table IX, page 66). The average of three reported in Table IX, page 66, for the group 1 counties is supported by a mean of two. The average of two in the group 2a counties is supported by a mean of one. In the group 2b counties the mean and average is one. When the unsupported quantity of thirteen is disregarded in the group 3 counties a mean and average of one is found there also. It is recommended that the average number required in each county group be used as a basis for applying Criterion 2c to counties in the respective groups.

Record and transcription players. The twenty directors were in complete agreement as far as stocking record and transcription players was concerned (Table VII,

page 64). According to Table IX, page 66, the mean of fifteen shown for group 1 is supported by three cases and an average of eleven. In group 2a the mean and average were equal with a value of five. In group 2b a mean and average of six is shown. However, in group 3 a high of fourteen reported does not find support except in the largest counties. Therefore, it is believed this amount should be disregarded and the mean of three players which is well supported by five cases among medium and smaller counties be used for this group. Hence, it is recommended that Criterion 2c include fifteen record and transcription players when being applied to a group 1 county, five when being applied to a group 2a county, six when being applied to a group 2b county, and three record and transcription players when being applied to a group 3 county.

Disc records. Table VII, page 64, shows only five directors believed these to be necessary items of equipment at county level. Therefore, it is not recommended that they be considered as a major item of equipment when applying Criterion 2c to counties irrespective of size.

Tape recorders. As shown in Table VII, page 64, all twenty directors were in agreement concerning the place of tape recorders at county level. According to Table IX, page 66, group 1 counties show a mean of ten and an average of

eleven tape recorders as the number necessary to satisfy demands placed upon them. Group 2a counties indicated a mean and an average of five tape recorders as their minimum number to their needs. The group 2b and group 3 counties reported a mean of five and an average of six as the quantity they needed to permit adequate minimum service. As the majority of cases were closely grouped around the mean in the latter three groups of counties, it is recommended that five tape recorders be incorporated in Criterion 2c when being applied to all counties except group 1 counties and that ten tape recorders be considered a minimum when evaluating services of the group 1 counties.

Recording device. (Two tape recorders, one disc recorder and player, and one radio in a single recording consol.) Table VII, page 64, shows only one director believed such a unit of sufficient use to be necessary in a county audio-visual service center. Due to lack of acceptance by a sufficient number of directors, it is not recommended that this be included in Criterion 2c as an item to be considered when evaluating county level and visual centers.

Tape recording players. Tape recording players have not found wide acceptance in the field as yet. This could be because the tape recording instrument manufacturers have not

placed good models on the market or because personnel served by the county centers want an instrument that will record as well as play pre-recorded tapes. Only one director of the twenty questioned believed they were necessary at county level (Table VII, page 64). Therefore, it is recommended that tape recording players not be included in Criterion 2c.

Visual equipment. Section 4 of Table VII, page 64, lists several pieces of equipment which were considered during the survey. The only item of which there was an indication of common acceptance was projection screens. The majority of the directors in group 1 counties believed microscopes should be stocked at county level but this was not supported by the other three county groups. It is, therefore, recommended that microfilm readers, microscopes, reading devices, table viewers, and viewmaster viewers be deleted from Criterion 2c when evaluating the equipment stocked at county level.

Projection screens. According to Table VII, page 64, all directors questioned believed projection screens were necessary at county level. Table IX, page 66, shows group 1 counties reported a mean and an average of ten screens as necessary to provide adequate minimum service. Group 2a counties show a mean and average of four screens as their required number. In the group 2b counties a mean of eight

screens and an average of seven screens was indicated as the needed amount. Group 3 counties indicate that four screens will meet their needs. On the basis of the above, Criterion 2c should include number of screens expressed as the average reported necessary by the four county groups.

Miscellaneous equipment. Although the dry mount press and the television receiver were the only two items upon which a high degree of common agreement was expressed, for the larger counties a completely furnished photographic laboratory appears justified (Table VII, page 64). It is recommended that auto harps, kilns, heavy duty paper cutters, Ozalid equipment, spot lights, projector tables, and primary typewriters be omitted from Criterion 2c when evaluating the equipment to be stocked at county level.

Dry mount press. Table VII, page 64, shows sixteen directors of the twenty questioned believed a dry mount press should be an item of equipment stocked at county level. Table IX, page 66, shows for all groups the mean and average was one dry mount press. Criterion 2c should, therefore, be modified to include this item of equipment to the extent of one for each county audio-visual service center regardless of size.

Photographic laboratory. A complete photographic

laboratory appears to be justifiable only in group 1 sized counties. Table VII, page 64, shows that four of the five counties represented in group 1 believe a complete photographic laboratory is a necessity. It is, therefore, recommended that Criterion 2c include a complete photographic laboratory as a major item of equipment when applied to a group 1 county.

Television receivers. Table VII, page 64, shows that fifteen of the twenty directors questioned believed that a television receiver should be maintained at the county audio-visual service center for the purpose of monitoring educational television broadcasts. The mean and average number believed essential for the above mentioned purpose was one (Table IX, page 66). It is, therefore, recommended that Criterion 2c list one television receiver as a major item of equipment necessary in the provision of adequate minimum service at the county level regardless of the size of the county.

Maintenance equipment. Table VIII, page 65, lists the various kinds of equipment which the directors of the twenty county audio-visual centers reported as necessary for maintaining material and equipment.

Under the general heading of Equipment Maintenance on Table VIII, page 65, are those items of equipment necessary or believed necessary by the twenty county audio-visual directors questioned for the purpose of providing equipment

maintenance for the schools served. This service is discussed in detail later in this report.

In the group 1 counties four directors stated that soldering equipment, hand tools as needed, a tube tester, and a volt-ohm meter were needed. The group 2a counties reported only two cases where this equipment was required and in the group 2b counties no need was reported. One county in the group 3 county group stated such equipment was needed.

Where complete maintenance of equipment service was provided by the county audio-visual service center the above items were reported necessary. The counties providing complete maintenance of equipment also employed technicians to perform this service. It, therefore, becomes a matter of county policy rather than size of enrollment served when considering these items of equipment. When the local policy is that of employing personnel and providing equipment maintenance to the schools served, the tools necessary in performing this service are required. It is recommended that for all counties regardless of size employing a trained equipment-repair technician the following minimum equipment be provided:

1. Soldering iron or solder gun
2. Tool set consisting of hand tools as needed
3. Tube tester

4. Volt-ohm meter

It is further recommended that Criterion 2c include these items of equipment when being applied to any county regardless of size if said county employs a trained equipment-repair technician.

Motion picture film and filmstrips must be maintained in order to increase circulation life and to be used with a minimum difficulty in the classroom. Dirt scratches film thus shortening the life. Minor damage leads to major damage if not repaired. Film libraries represent large investments so equipment to protect this investment certainly becomes justified. This fact was supported by all directors. Fourteen directors believed that film cleaning and inspecting machines were necessary to accomplish this job. In the smaller service centers found in the group 3 counties and occasionally in the group 2b counties it was not believed that machinery was necessary to do the job. Hand cleaning and inspection were possible in the smaller centers due to a lower circulation of films. In the larger centers, however, all directors stated equipment was needed because of economy. With inspection equipment one person could do so much more so much better than several persons attempting to do the job by hand.

Table VIII, page 65, shows that all directors questioned believed power-driven rewind equipment and slicers

for 35 mm. and 16 mm. film to be necessities.

On the basis of the data shown in Table VIII, page 65, it is recommended that Criterion 2c include a 35 mm. film-strip cleaner and a 16 mm. cleaner and inspector of the Harwald or equivalent type when being applied to all counties except the group 3 counties, and that Criterion 2c include power rewind equipment, 16 mm. splicers and 35 mm. splicers when being applied to all counties regardless of size.

III. CRITERION THREE

3. The county audio-visual department provides all schools served with booking, distribution, and maintenance services compatible with good utilization requirements.

- a. A dependable and efficient booking system is maintained.

- (1) The single item order form is used to facilitate the ease and speed with which materials are booked.
 - (2) Loan periods are varied according to instructional needs (for example, as long as one week for films and two weeks for other materials).

(3) The booking card system used is one that allows for efficiency in scheduling materials for specific dates. Systems similar to Wheeldex or Kardex are recommended for handling the cards.

(4) The system for bookings is made as flexible (for example, as little as two weeks in advance of day of intended use).

- b. Films are completely inspected after each booking.
- c. Frequent delivery service is provided (for example, to each school at least once a week).
- d. Up-to-date catalogs or card files of pertinent available materials are available to every teacher in the schools served (for example, card files or annual catalogs with intervening supplements).
- e. A minimum of film rentals are made to supplement locally owned materials.
- f. Maintenance and repair services for school owned audio-visual equipment are arranged for or provided.

- g. Audio-visual equipment is loaned to meet the emergent needs of those served.

Table X lists the operational practices followed in the twenty selected counties in order that booking, distribution, and maintenance service may be accomplished.

The data presented in Part A of Table X indicated that Criterion 3a is satisfactory with the exception of that portion concerning advance booking. All directors were of the opinion that requesting material one week in advance of the date of intended use provided ample time for processing the order form and delivering the material.

It will be noted that sixteen directors believed a single item order form provided the most efficient method to be used in ordering material. In order to book the material ordered, a single item booking card system such as the Kardex or Wheeldex system was preferred by all directors questioned.

Nineteen of the twenty directors questioned confirmed the opinion that loan periods should vary with four different instructional materials so that varying educational needs could be met. The one director who believed loan periods should remain constant stated he was of the opinion that any material needed longer than one week should be purchased and retained by the local school district. Table XI, page 92, and a discussion of what these loan periods should be appears

TABLE X
OPERATIONAL PRACTICES

a. Booking Procedure		
	Yes	No
1. Order Form:		
a. Should a single item order form be used?	16	4
2. Loan Period:		
a. Should periods vary for different instructional materials?	19	1
3. Booking Card:		
a. Should a booking card system such as the Kardex or Wheeldex systems be used?	20	0
4. Booking System:		
a. Should the booking system be flexible so that material may be booked as little as a week in advance of intended use?	20	0
b. Film Inspection		
	Yes	No
1. Frequency of Inspection		
a. Films should be inspected completely after each booking	12	8
b. Films should be inspected completely after each five bookings	1	19
c. Films should be inspected completely three times a year	1	19
d. Films should be inspected completely two times a year	3	17
e. Films should be inspected completely once a year	3	17
f. If not completely inspected after each booking, should quick visual inspection of title and reel be made	4	4
g. If not completely inspected after each booking, should film damage reports from teachers be used as a basis for determining film condition	4	4

TABLE X (continued)

b. Film Inspection (continued)		
	Yes	No
2. Should teachers assume responsibility for notifying audio-visual departments when film needs repair?	19	1
c. Delivery Service		
	Yes	No
1. Delivery of Films		
a. Should each school or district be served by a delivery vehicle operated by the county audio-visual service center?	19	1
b. Delivery service should be provided at least:		
(1) weekly	18	2
(2) biweekly	1	19
(3) other*	1	19
d. Catalog Procedure		
	Yes	No
1. Should an up-to-date catalog be provided each teacher?	17	3
2. Should a card catalog be placed in each school?	3	17
3. Should catalog system be grade leveled for elementary teachers?	16	4
4. Should catalog system be organized by subject area for secondary teachers?	17	3
e. Film Rental		
	Yes	No
1. Should films be rented to augment locally owned films?	16	4

TABLE X (continued)

e. Film Rental		
	Yes	No
2. Should film rentals be made by the county in special cases only?	6	10
3. Should film rentals be limited to secondary and adult films only?	2	14
4. Should film rentals be by the using district and not the county audio-visual center?	8	8
f. Maintenance and Repair Service		
	Yes	No
1. Should the county audio-visual service center provide equipment maintenance service to the school districts served?	16	4
2. Should the audio-visual service center provide a complete equipment maintenance service?	6	14
3. Should the equipment maintenance service be limited to minor repairs such as replacement of tubes, belts, repair of cordage, etc.?	10	10
4. If equipment service is maintained, should the school district pay for parts used?	16	0
g. Loan of Equipment		
	Yes	No
1. Should the county audio-visual service center loan equipment to meet the emergent needs of schools served?	20	0

* Distant schools only--once each week.

later.

According to Table X, pages 85-87, Criterion 3b concerning complete inspection of films after each usage was supported by the majority of the twenty directors. The fact that eight of the twenty did not believe this practice essential should be noted. Of the eight who believed a complete inspection unnecessary, several alternatives were suggested. One director stated one inspection after each five bookings was sufficient. Heavy reliance on film damage reports submitted by teachers was used as a basis for judging condition during the interim period.

Table X, pages 85-87, shows three directors indicated complete inspections twice a year was enough while three others replied that three complete inspections a year were needed. One director stated one complete inspection a year would suffice.

In the eight cases to which reference is made, four directors placed heavy reliance on film damage reports submitted by the users. The other four directors gave a quick visual inspection to film while on the reel and to the first 10 feet of leader and title. Major damage can be detected in this way, but minor damage is difficult to detect.

Item b-2, Table X, page 86, shows in 19 cases it was indicated that the directors thought teachers should assume responsibility for notifying the audio-visual service center

of film damage. This was accomplished in most cases by means of placing a note or film damage slip in the film can.

Table X, part c, page 86, shows that eighteen directors favored weekly delivery to all schools by means of a vehicle operated by the county audio-visual center. One believed twice a week made greater utilization of the resources provided by the center possible. The twentieth director favored delivery only to the schools at a considerable distance from the center.

Table X, pages 85-87, also shows all directors agreed that an up-to-date card file or catalog should be available to teachers as a means of informing them of pertinent available material (Criterion 3d). However, there was some variance in the opinions expressed as to how best to accomplish this goal. Eighty-five per cent of the directors believed a catalog should be placed in the hands of each teacher. The remainder believed a card file placed in each school to be a better way of meeting teacher needs. Of the latter group, two or more card files were placed in larger schools in order to better serve the teachers.

Table X, pages 85-87, shows there were differences of opinion expressed on the subject of grade leveling the material reserved for elementary school use. Sixteen of the directors stated that they thought the catalogs should be grade-leveled; that is, all materials be assigned for use in

certain grades, thus assuring teachers of fresh material selected for their specific grade. The remaining four directors believed that the cataloging system should be by subject area, leaving the responsibility for selecting the material most suitable for the grade being taught to the individual teacher.

For secondary schools, seventeen directors stated that the cataloging system should be by subject area for secondary school use. Alphabetical listing or card filing was expressed as the alternative in the other three cases.

Criterion 3e, film rentals to supplement locally owned material are at a minimum, was supported by all directors. Although Table X, pages 85-87, shows that sixteen directors indicated films should be rented to augment locally owned material, it will be noted that of the sixteen who expressed an affirmative answer, six directors stated this should be in special cases only, two directors stated rentals should be films for secondary and adult education only, and eight directors stated the using district should make the rentals and not county audio-visual service centers.

According to Table X, pages 85-87, the twenty directors questioned indicate several divergent courses are currently being followed in regards to providing or arranging for equipment maintenance and repair service (Criterion 3f). Two directors expressed the opinion that the repair and

maintenance service was entirely the responsibility of the local school district. Two other directors stated that they only arranged for the service if requested. Sixteen directors believed the audio-visual service center had a definite responsibility in this area.

Of the sixteen county audio-visual directors who stated that the county audio-visual service center should provide equipment maintenance service, six believed that a complete equipment repair and maintenance service should be provided. The remaining ten indicated the service should be limited to minor repairs such as tube or belt replacement and repair of electrical cordage. This group believed major repairs should be made by commercial repair organizations. In all cases the county audio-visual service centers provided the labor only, the districts owning the equipment pay for the parts required.

All twenty directors confirmed the fact that county audio-visual service centers should loan equipment to meet the emergent needs of the schools served.

Table XI, page 92, shows the opinions expressed concerning the length of loan periods for various kinds of instructional materials. Criterion 3a (2) states that loan periods should vary to meet the instructional needs.

Using the median of the values expressed in Table X, pages 85-87, as a basis, it is recommended that this

TABLE XI

LOAN PERIODS FOR VARIOUS MACHINERY IN THE
SELECTED COUNTIES OF CALIFORNIA

Number of Weeks in Loan Period

County	Motion Pictures	Film Strips	Study Prints	Audio Reels	Visual Reels	Labels	Charts Maps
1	1	1	3	2	1	1	1
2	1	1	2	1	1	1	1
3	1	2	4	2	2-4	2-4	2
4	2	2	2	2	2	2	4
5	1	2	2	2	2	2	2
6	1	1	2	2	2	2	2
7	1	1	2	2	2	2	2
8	1	1	2	2	2	2	2
9	1	1	2	2	1	1	1
10	1	1-3	2	2	2	2	2
11	1	1	1	1	1	1	1
12	1	1	4	2	2	2	4
13	1	2	3	3	2	2	3
14	1	2	2	2	2	2	2-4
15	1	1	2	2	1-2	2	2
16	1	1	4	4	1	4	1
17	1	1	2	2	2	2	2
18	1	1	2-3	1	1-2	1-2	1
19	1	1	2	2	2	1	2
20	1	1	1	1	2	1	1
Median	1	1	2	2	2	2	2

* A variable - booking period is determined by the number in the set, complexity or educational need.

criterion be made more specific and include these medians as minimum loan periods for the different kinds of materials. The minimum loan periods for seven listed materials would then be as follows:

<u>Material</u>	<u>Minimum Loan Period</u>
1. Motion Pictures	1 week
2. Filmstrips	1 week
3. Study prints (includes Art Prints)	2 weeks
4. Realia	2 weeks
5. Records	2 weeks
6. Models	2 weeks
7. Maps and charts	2 weeks

In all cases permission to renew loan period recommended by the twenty directors questioned, if no prior booking commitment existed.

IV. CRITERION FOUR

4. The county audio-visual plant is easily accessible and of sufficient size to warrant efficient operation.

- a. The departmental plant is located in the same building or immediately adjacent to the one in which the other offices of the county superintendent of schools are located.

- b. The county audio-visual department is housed in a county owned building.
- c. The over-all size of the department is adequate for services offered (at least 1,500 square feet of floor space).
- d. The department has storage space that is easily accessible; shipping, receiving, and maintenance space; display space; preview and/or conference space; and office space.

Criterion IV is designed to evaluate the physical facilities provided the audio-visual service center. Table XII indicates the most desirable location of this facility in relation to the other county school offices, whether the building should be county owned or leased, and the usage to which space should be allocated. Table XIII, page 96, presents the total number of square feet that each county director believed necessary in order that the needs expressed in Table XII, item 3, can be met.

All directors questioned agreed that the audio-visual service center should be in the same building as the other county school offices. Nineteen of the twenty directors also agreed that the building should be county owned.

It will be noted that the only additional space usage reported by the various directors was the inclusion of a waiting room for persons visting the center. This was

TABLE XII

THE COUNTY AUDIO-VISUAL PLANT

	Yes	No
1. The county audio-visual department should be in the same building as other county school offices.	20	0
2. The building housing the department should be county owned.	19	1
3. Space should be provided for the following services:		
	<u>Frequency of Mention</u>	
a. Storage	20	
b. Shipping	20	
c. Receiving	20	
d. Previewing materials	20	
e. Production	20	
f. General work area	20	
g. Maintenance	20	
h. Display	20	
i. Conference	20	
j. Director's office	19	
k. Consultant office	4	
l. Waiting room	1	

TABLE XIII

FLOOR AREA REQUIRED TO PROVIDE NECESSARY AUDIO-VISUAL
SERVICES AT THE COUNTY LEVEL

Group	County	Square feet
1	A	10,000
	B	4,000
	C	3,500
	D	6,000
	E	5,000
Average		5,700
Mean		5,000
2a	F	2,000
	G	3,750
	H	2,500
	I	2,500
	J	2,500
Average		2,650
Mean		2,500
2b	K	6,600
	L	3,400
	M	2,500
	N	1,800
	O	3,500
Average		3,450
Mean		3,400
3	P	1,600
	Q	1,500
	R	2,000
	S	2,300
	T	1,500
Average		1,780
Mean		1,500

mentioned only once and this by a group 1 county. Therefore, no necessity exists for modifying Criterion 4 in this respect.

No mention of floor space is contained in Criterion 4c except to state that a minimum of 1,500 square feet should be provided. Table XIII, page 96, lists the number of square feet each county director believed necessary for a county of this size. As the needs vary directly with the amount of materials owned, personnel employed and services offered, it becomes obvious that the more extensive services provided by the larger county centers would increase their needs to far more than the 1,500 square feet mentioned.

As the difference between the mean and the average for each county group is so slight, it is recommended that the mean values for each county group be included in Criterion 4c as a minimum amount of floor space for each county group.

V. CRITERION FIVE

5. The county audio-visual employs sufficient qualified personnel to provide efficient professional and non-professional services.

- a. The department is directed by a certificated person competent in audio-visual education. Certification requirements for audio-visual directors and/or supervisors are the same as

that of other general supervisors.

- b. Sufficient non-certificated personnel are employed to perform the various tasks required for adequate audio-visual services.

Certificated personnel. Criterion 5a is intended to serve as a measurement of the professional personnel employed to direct or supervise the operation of the county audio-visual service center. When the administrative duties require the major part of the director's workday, additional personnel are often added to assist in the field as supervisors or consultants in audio-visual education. In larger departments the percentage of time devoted to administrative duties becomes increasingly larger. Currently the requirements for audio-visual directors are the same as that required for other general supervisors. Because of the administrative duties the question concerning what minimum credentials should the director and consultant hold was inserted in the questionnaire.

Table XIV shows a tabulation of the minimum credentials the twenty directors believed county audio-visual directors should be qualified to hold. It will be noted that there was no trend towards common agreements. In the group 1 counties four directors indicated that being qualified for the supervision credential alone was not an indication of

TABLE XIV

SUGGESTED QUALIFICATION REQUIREMENTS FOR CERTIFICATED AUDIO-VISUAL PERSONNEL AT THE COUNTY LEVEL

Group	County	Certificated Personnel Required		Suggested Minimum Credential For Directors	Suggested Minimum Credential For Consultants
		Director	Consultants		
1	A	1	4	Administration ¹	Supervision ³
	B	1	1	Administration ¹	Supervision ¹
	C	1	1	Supervision	Supervision ³
	D	1	1	General Administration	Supervision (Elementary)
	E	1	1	General Supervision	General Supervision
2a	F	1		Supervision ¹	
	G	1		Administration ¹	
	H	1		Supervision ¹	
	I	1	1	Administration ¹	Supervision ¹
	J	1	1	Supervision ²	Supervision ²
2b	K	1	1	General Supervision	Supervision ³
	L	1	2	Administration ²	Supervision or Administration (Elementary)
	M	1		Supervision ¹	
	N	1		Administration ¹	
	O	1	2	Administration ²	Administration ³ - Supervision ³
3	P	1		Administration in field of most service - supervisory in other	
	Q	1		General Supervision	
	R	1		Supervision ¹	
	S	1		General Administration	
	T	1		Supervision ¹	

TABULATION BY CREDENTIAL

Minimum Suggested	Director	Consultants
Administration ¹	5	
General Administration	2	
Administration ²	2	
General Supervision	3	1
Supervision ¹	6	7
Administration at level of most service and supervision ¹	1	1
Supervision ²	1	1
TOTAL	20	10

1. Either Elementary or Secondary
2. Both Elementary or Secondary
3. At level assigning Elementary or Secondary

sufficient training or education. Three directors in this group indicated administrative training was necessary while another director indicated supervisory training at both elementary and secondary levels of instruction should be required.

The directors serving in group 2a counties indicated three different levels of credential necessary. Two replied that present requirement of a supervision credential at either level was enough. Two other directors in this group indicated administrative training was required. The fifth director stated that supervisonal training at both the elementary and secondary level was needed.

Again in the group 2b counties a wide range of opinion was revealed. Two directors in this group answered that administration credentials for elementary and secondary school service should be held. The remaining three directors in this group were divided in opinion. One believed a supervision credential at either level was sufficient, another the administration at either level, but the third indicated possession of a general supervision credential represented evidence of sufficient education and training.

The pattern was repeated in the group 3 counties where two directors agreed that a supervision credential at either secondary or elementary level indicated professional competency. One director believed the general supervision

credential should be required and another thought the minimum credential should be the general administration credential. The fifth director in this group stated that the director should hold an administration credential at the other level.

This wide divergence of opinions is again revealed when a tabulation is made by credential (Table XIV, page 99). A total of six directors from all groups believed the supervision credential qualifying the individual to work in general supervision at either the elementary or secondary level represented sufficient educational background. Five of the directors from all groups replied that administration credential should be held by the directors.

As opinion is so divided, no conclusions can be drawn from this portion of the study except that the minimum credential requirement is acceptable. This fact is based on reported data for in no case was a credential reflecting less educational background reported as satisfactory.

Where additional consultants are employed to serve under the supervision of the county audio-visual director a clear majority of seven out of the ten reported cases indicated that a supervision credential at either level or at the level to which assigned should be sufficient.

Non-certificated personnel. Criterion 5b gives no indication as to what constitutes sufficient non-certificated personnel nor does it give an indication of the duties or tasks required for adequate audio-visual services. An attempt has been made in Table XV to show the number of job titles used, and the number of such personnel employed in the twenty counties studied. Table XV also reports the average number employed in each county group.

The number of non-certificated personnel are a direct indication of the extent of services offered and the enrollment served. The heavier populated counties of group 1 require more materials and more people to handle and maintain them.

County N does not provide delivery or maintenance service so no personnel are listed in these categories. In all other cases the number of personnel employed by each county in the group compares closely to the average for the group.

In nearly all cases the type of service performed by the non-certificated personnel is identical. The difference occurs in the title of the person who performs specific tasks. Table XVI, page 104, will clarify this assumption. The basic services which were discussed in Criterion 3 are included, those of booking, cataloging and maintenance. In addition to the services listed above, work connected with

TABLE XV

NON-CERTIFICATED PERSONNEL REQUIRED TO PROVIDE REQUIRED SERVICES
IN THE AUDIO-VISUAL SERVICE CENTER AT COUNTY LEVEL

[illegible]

TABLE XVI.

TYPICAL WORK TASKS PERFORMED BY NON-CERTIFICATED PERSONNEL
EMPLOYED IN THE COUNTY AUDIO-VISUAL SERVICE CENTER

[illegible]

assisting the director in accomplishing his work as discussed in Criterion 6 is also shown in Table XVI, page 104.

Using the number of non-certificated personnel shown in Table XV, page 103, as the basis, it is recommended that the average shown for each group be included in Criterion 5b and used when evaluating county audio-visual service centers of comparable responsibility. Group 3 counties should, therefore, have a minimum of two non-certificated persons; group 2a and 2b counties should have a minimum of four persons if they are providing the most desirable services; and group 1 counties should have a minimum of eight persons to provide adequate services to the heavier populated counties.

VI. CRITERION SIX

6. The director or supervisor in charge of the audio-visual department has adequate time to carry out the following administrative and supervisory responsibilities relative to the audio-visual education program in the county (for the present at least 50 per cent of the time should be available for supervision):

- a. To administer the procuring, distribution, technical, and production services of the department.

- (1) He provides opportunities for teachers and staff to preview audio-visual materials and to recommend purchases in terms of curricular needs.
- (2) He formulates policies and procedures regarding the distribution of audio-visual materials and equipment.
- (3) He provides assistance with acoustics, room-darkening, wiring, and other technical problems of audio-visual education.
- (4) He assists with the production of locally needed audio-visual materials that are not available from other sources.

b. To aid in the improvement of instruction by providing supervisory services.

- (1) He assists teachers in the proper use of audio-visual materials in terms of curriculum objectives.
- (2) He assists in arranging workshops, extensive courses, and other in-service educational activities.
- (3) He integrates the audio-visual services with the county curriculum and/or course of study.

The last criterion for use in evaluating audio-visual services at the county is designed to appraise the duties in an administrative and a supervisory capacity performed by the audio-visual director and if employed the audio-visual consultant.

Criterion 6 indicates that the time should be divided so that a minimum of 50 per cent is available for supervision. Only nine directors stated that they were able to provide this much time (Table XVII). In the larger centers where consultants were available or believed needed it was not possible for the directors to exceed 40 per cent, and in most cases less, in the supervisory roll. However, when the time of the two persons is added together this relationship of 50 per cent minimum time devoted to supervision was found to exist.

There is insufficient evidence available to recommend a change in the existing criteria as far as allocation of a minimum of 50 per cent of the directors' time to supervision. The data discussed in the preceding paragraph tends to strengthen this factor rather than weaken it.

Table XVIII, page 109, lists the suggested persons who should preview materials. Criterion 5a (1) lists only teachers and county staff. On the basis of the fact that eleven directors out of twenty indicated that administrators should also be included in the preview group, it is

TABLE XVII

ALLOCATION OF TIME BY COUNTY AUDIO-VISUAL
DIRECTORS AND CONSULTANTS

County	Allocation of Time By Director in Percent		Allocation of Time By Consultant if Employed in Percent	
	Administration	Supervision	Administration	Supervision
Group 1				
A	60	40	10	90
B	75	25	25	75
C	80	20	25	75
D	60	40	40	60
E	75	25	15	85
Group 2a				
F	66-2/3	33-1/3		
G	50	50		
H	40	60		
I	70	30	30	70
J	75	25	20	80
Group 2b				
K	60	40	50	50
L	50	50	General Supervision	50
M	50	50		
N	40	60		
O	50	50		
Group 3				
P	50	50		
Q	35	65		
R	75	25		
S	50	50		
T	75	25		

recommended that this portion of Criterion 5 be changed to include administrators in addition to teachers and staff members.

All twenty directors questioned believed that the county audio-visual service center director should formulate the policies and procedures regarding the distribution of audio-visual materials and equipment. Therefore, Criterion 6a (2) is substantiated as presently written.

The various areas in which the county audio-visual director should provide technical assistance are shown in Table XIX. Although assistance in building planning and budget preparation at the local district level are mentioned, the only assistance not listed in Criterion 6a (3) is in the selection of material and equipment by the school districts served. Since this service was listed by all twenty directors questioned, it is recommended that Criterion 6a (3) be altered to include this area of technical assistance.

When the director assumes the supervisory roll, existing criteria state that he should aid in improving instruction by providing supervisory services in three areas: he is to assist teachers in the proper use of materials; he is to assist in arranging various in-service educational activities; and he is to integrate the audio-visual services

TABLE XIX

TECHNICAL ASSISTANCE IN SOLVING
AUDIO-VISUAL PROBLEMS

Directors should provide technical assistance in solving problems in
the following areas.

County Group	Acoustics	Room Darkening	Production of Materials	Building Planning	Assist Local Districts in the Selection of Material and Equipment	Assist Local District Preparation of A/V Section of Their Budget
1	A	x	x	x	x	
	B	x	x	x	x	
	C	x	x	x	x	
	D	x	x	x	x	
	E	x	x	x	x	
2a	F	x	x	x	x	x
	G	x	x	x	x	
	H	x	x	x	x	
	I	x	x	x	x	
	J	x	x	x	x	x
2b	K	x	x	x	x	x
	L	x	x	x	x	
	M	x	x	x	x	
	N	x	x	x	x	
	O	x	x	x	x	x
3	P	x	x	x	x	
	Q	x	x	x	x	
	R	x	x	x	x	
	S	x	x	x	x	x
	T	x	x	x	x	
Frequency of Mention Total	20	20	20	4	20	5

with the county curriculum and/or course of study.

In reply to the question designed to supply information pertaining to the supervisorial roll of the county audio-visual director, many varied responses were received. The responses which were supplied by two or more directors are tabulated in Table XX.

The three existing criteria are very broad and cover this area in a nearly adequate manner. Many of the replies were specific in nature and were encompassed in the existing criteria when the latter are interpreted in their broader sense. Because of his value as a resource person in a specialized area and because the enrichment of the curriculum is so greatly his responsibility, sixteen directors believed membership on all curriculum planning committees should be clearly stated. No other responsibility had a frequency of mention exceeding five. Based on the high frequency of mention, it is recommended that Criterion 6b be modified to define service on all county curriculum committees as a supervisorial responsibility all county audio-visual directors should assume.

VII. SUMMARY

In Chapter IV data obtained in this study have been compared with the existing criteria for evaluating audio-visual services at the county level in California. Recommendations for changes in the existing criteria based on data obtained through a questionnaire-interview with twenty county directors of selected county audio-visual service centers have been presented and discussed.

The next chapter contains the summary, conclusions drawn in the form of a revised set of criteria, and recommendations for further study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER STUDY

I. SUMMARY

In the preceding chapters the development of the county level audio-visual service center has been traced, the legal basis has been established, and existing criteria have been tested by a board of experts.

A review of the literature indicates that from the year 1930, when only Santa Clara County had a county audio-visual program, until 1957, when all counties either have or have arranged for such services, audio-visual education service centers have shown an exceptional growth. This growth has been functional in nature. As need for new, better, or needed services have become evident, the audio-visual service centers have included these services along with the other services provided.

Statutes have been added to the Education Code of the State of California permitting county superintendents to establish audio-visual service centers and requiring the participating school districts to assist in the support of such centers. The power of audio-visual materials was recognized when statutes were added requiring county board

of education adoption of motion pictures and filmstrips.

The need for criteria to be used in evaluating audio-visual services at the county level has been discussed. Because of growth, changing philosophy, and curriculum demands the existing criteria have become unsatisfactory as a measuring device.

By using a questionnaire and the questionnaire-interview technique, a jury of experts was polled. The questionnaire was based on criteria currently in use by officials of the California State Department of Education. The jury of experts consisted of twenty selected directors of audio-visual education who represented twenty counties having small, medium, and large population densities.

Tabulation of the responses obtained from the jury of experts revealed several major differences between the existing criteria and current thinking. These differences as supported by the opinions of the jury of experts appear in the following paragraphs.

The use of \$1.50 per unit of average daily attendance as the criterion for measuring the adequacy of financial support for audio-visual education was not validated by the jury of experts. Either \$4.00 per unit of average daily attendance should be used on a state-wide basis or an amount varying from \$3.00 per unit of average daily attendance for counties having large population density to \$6.00 per unit

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of average daily attendance where counties have very small
population densities.

More motion picture titles are required to adequately cover the course of study where the audio-visual service center is serving large schools offering a full curriculum. In counties having large population densities 1,800 motion picture titles are required, but in counties having small population densities only 750 motion picture titles were needed.

Substantially larger quantities of all kinds of materials are needed than are stated as minimum quantities in the existing criteria.

Evidence was found to support the thesis that substantial difference in requirements for materials, equipment, floor space, and personnel exists between the lightly populated counties and the heavily populated counties. These differences are so pronounced that different values should be included in each criterion where numerical quantities are essential in order that the appropriate value may be used when applying the criterion to differently populated counties.

In addition to the major differences in the present criteria expressed in the preceding paragraphs, the relative uniformity of opinion must also be noted. On many major points most of the directors expressed an agreement. The major items of material as shown in Table V, page 41, are an example. For the seventeen kinds of materials listed,

four kinds were mentioned by all twenty directors, five kinds were mentioned by nineteen directors, one kind was mentioned by eighteen directors, and two kinds were mentioned by sixteen directors.

The nearly uniform consensus concerning the kinds and quantities of equipment as shown in Table IX, page 66, should be pointed out. Seven items of equipment out of the sixteen listed were mentioned by all twenty directors questioned. Two more of the sixteen items were listed as essential by nineteen of the twenty directors.

In administrative matters, such as loan periods for different kinds of materials, duties and tasks to be performed by non-certificated personnel, duties and responsibilities of directors, and the areas in which technical assistance should be provided, a strong uniformity of opinion was found to be prevalent.

Criterion one should be changed to permit the inclusion of different amounts of expenditure per unit of average daily attendance when this criterion is applied to different population density counties.

Criterion two should include different quantities of materials and equipment when this criterion is applied to different population density counties.

Criterion three should include minimum loan periods for the different kinds of materials.

Criterion four should include different minimum floor space amounts for departments serving different population density counties.

Criterion five should list those tasks which should be accomplished by non-certificated personnel. Criterion five should list the minimum number of non-certificated employees the various sized audio-visual service centers should have.

Criterion six should include a statement expressing the necessity of the audio-visual director serving on all curriculum committees.

II. CONCLUSIONS

Based on the data presented in the preceding chapter, the following set of criteria are proposed as a more adequate means of evaluating audio-visual services at the county level in California:

RECOMMENDED CRITERIA FOR EVALUATING AUDIO-VISUAL SERVICES AT THE COUNTY LEVEL IN CALIFORNIA

The county groups are defined as follows:

1. Group 1--County audio-visual departments serving an enrollment of 30,000 and over.
2. Group 2a--County audio-visual departments serving 5,000 to 29,999 enrollment in two or more counties.
3. Group 2b--County audio-visual departments serving 5,000 to 29,999 enrollment in one county.
4. Group 3--County audio-visual departments serving 4,999 and less enrollment.

Suggested criteria follow:

1. Audio-visual services are provided or arranged for in every county by the office of the county superintendent of schools.
 - a. The audio-visual services are utilized by all school districts in a county that do not provide their own services.
 - b. When the inventory of materials is adequate according to criterion 2b, the audio-visual department serves all medium-sized and small districts (for the present defined as districts of less than 10,000 units of A.D.A.).
 - c. The audio-visual service budget provides an adequate minimum support per unit of A.D.A. (for the present, Group 1 counties \$3.00 per unit of A.D.A.; Group 2a counties \$3.50 per unit of A.D.A.; Group 2b counties \$3.75 per unit of A.D.A.; and Group 3 counties \$6.00 per unit of A.D.A.).
 - d. The audio-visual department (county superintendent of schools) enters into a contractual agreement with the districts served in order to increase the funds available for the purchase of additional materials. The amount to be paid by the contracting district should be based upon the units of average daily attendance for each district contracting for this service.
2. The county audio-visual department augments the instructional program of the schools served by stocking an adequate supply of audio-visual instructional materials and equipment.
 - a. The materials stocked include the items in the minimum amounts listed below (several duplicates of each title may be necessary to meet requests):

MATERIAL FOR INSTRUCTIONAL PURPOSES

Major Items of Material	Minimum Amount Stocked			
	Group 1 Counties	Group 2a Counties	Group 2b Counties	Group 3 Counties
16 mm. Motion Picture Film (titles)	1800	1350	1000	750
16 mm. Motion Picture Film (duplicates)	70/1000 Enrollment	70/1000 Enrollment	70/1000 Enrollment	25/1000 Enrollment
35 mm. Filmstrips (titles)	2300	2000	2000	2000
35 mm. Filmstrips (duplicates)	150/1000 Enrollment	120/1000 Enrollment	120/1000 Enrollment	40/1000 Enrollment
2" x 2" Slide Sets	100	100	100	100
3 1/2" x 4" Slide Sets	40	40	40	40
Microslide Sets	25	25	25	25
Study Print Sets (Including Art Reproductions)	500	500	250	250
Maps	40	40	40	40
Charts	100	50	85	50
Models	70	70	70	70
Realia	75	100	100	50
Dioremas	15	15	15	15
Stereographs	190	190	190	190
Tape Recordings	200	200	200	200
Disc Recordings	1200	1200	1200	1200
Resource Kits	25	30-35	30-35	125

The audio-visual equipment stocked meets the needs of the county staff, experimental needs, and emergency needs of the schools served.

The county audio-visual service center loans equipment of special nature for which small schools have such insufficient use that purchase by the school cannot be justified. Equipment is stocked to make local production of materials possible when necessary to supplement materials available from commercial sources. Such equipment as is necessary to maintain equipment and materials is also stocked. Following is a minimum list of equipment which should be stocked to meet the above needs:

**EQUIPMENT FOR INSTRUCTIONAL PURPOSES
MINIMUM AMOUNT STOCKED**

Major Item of Equipment	<u>Group 1 Counties</u>	<u>Group 2a Counties</u>	<u>Group 2b Counties</u>	<u>Group 3 Counties</u>
35 mm. Still Cameras	2	1	1	1
4" x 5" Press Camera	1	1	1	1
16 mm. Motion Picture Projectors	10	7	7	7
35 mm. 2" x 2" Slide Projectors	16	5	7	3
3 1/4" x 4" Slide Projectors	2	2	2	2
Microscopic Projectors	2	2	2	2
Opaque Projectors	5	3	3	3
Overhead Projectors	3	2	2	1
Microphones--All types	7	2	4	1
Public Address Systems including electronic megaphones	5	2	4	1
Radios	3	2	1	1
Record and Trans- cription Players	15	5	6	3
Tape Recorders	10	5	5	5
Screens, Projection	10	4	7	4
Dry Mount Press	1	1	1	1
Television Receiver	1	1	1	1

EQUIPMENT FOR MAINTENANCE PURPOSES

Soldering iron or gun*				
Tool set--hand tools as needed*				
Tube tester*				
Volt-Ohm meter*				
Film cleaner and in- specter	1	1	1	
Power driven rewind	1	1	1	1
Film strip cleaner	1	1	1	1
16 mm. and 35 mm. splicers	1	1	1	1

*If repair technician is employed.

3. The county audio-visual department provides all schools served with booking, distribution, and maintenance services compatible with good utilization requirements.

a. A dependable and efficient booking system is maintained.

- (1) The single item order form is used to facilitate the ease and speed with which materials are booked.
- (2) Loan periods are varied according to instructional needs. Minimum booking periods for different materials as follows:

<u>Material</u>	<u>Minimum Loan Period</u>
1. Motion Pictures	1 week
2. Filmstrips	1 week
3. Study prints (includes art prints)	2 weeks
4. Realia	2 weeks
5. Records	2 weeks
6. Models	2 weeks
7. Maps and Charts	2 weeks

Permission to renew granted if no prior booking commitment exists.

- (3) The booking card system used is one that allows for efficiency in scheduling materials for specific dates. Systems similar to Wheeldex or Kardex are recommended for handling the cards.
 - (4) The system for bookings is made as flexible as possible (for example, as little as one week in advance of day of intended use).
- b. Films are completely inspected after each booking.
- c. Frequent delivery service is provided (for example, to each school at least once a week).
- d. Up-to-date catalogs or card files of pertinent available materials are available to every

teacher in the schools served (for example, card files or annual catalogs with intervening supplements).

- e. A minimum of film rentals are made to supplement locally owned materials.
 - f. Maintenance and repair services for school owned audio-visual equipment are arranged for or provided. Limited repairs of a minor nature are provided the contracting districts at no charge by county audio-visual service center. Major repairs are to be paid for by the districts. The work may be done by a county service center technician or by a commercial repair agency.
 - g. Audio-visual equipment is loaned to meet the emergent needs of those served.
4. The county audio-visual plant is easily accessible and of sufficient size to warrant efficient operation.
- a. The departmental plant is located in the same building or immediately adjacent to the one in which the other offices of the county superintendent of schools are located.
 - b. The county audio-visual department is housed in a county owned building.
 - c. The over-all size of the department is adequate for services offered (at least 5,000 square feet for Group 1 counties; 2,500 square feet for Group 2a counties; 3,400 square feet for Group 2b counties; and 1,500 square feet for Group 3 counties).
 - d. The department has storage space that is easily accessible; shipping, receiving, and maintenance space; display space; preview and/or conference space; and office space.
5. The county audio-visual department employs sufficient qualified personnel to provide efficient professional and non-professional services.

- a. The department is directed by a certificated person competent in audio-visual education. Certification requirements for audio-visual directors and/or supervisors are the same as that of other general supervisors.
- b. Sufficient non-certificated personnel are employed to perform the various tasks required for adequate audio-visual services. Sufficient non-certificated employees are available to accomplish the following tasks:
 1. Booking
 2. Filing
 3. Ordering
 4. Shipping and receiving
 5. Film inspection and repair
 6. Secretarial
 7. Cataloging
 8. Delivery
 9. General clerical
 10. Equipment Maintenance (If service is provided at the audio-visual service center)

The minimum number of non-certificate employees to accomplish these tasks are:

<u>County Group</u>	<u>Number of Non-Certificated Personnel</u>
1	8
2a	4
2b	4
3	2

6. The director or supervisor in charge of the audio-visual department has adequate time to carry out the following administrative and supervisory responsibilities relative to the audio-visual education program in the county (for the present at least 50 per cent of the time should be available for supervision):
 - a. To administer the procuring, distribution, technical, and production services of the department.

- (1) He provides opportunities for teachers, administrators and staff to preview audio-visual materials and to recommend purchases in terms of curricular needs.
 - (2) He formulates policies and procedures regarding the distribution of audio-visual materials and equipment.
 - (3) He provides assistance in solving problems in the areas of acoustics, room darkening, wiring, material and equipment selection, and other technical problems of audio-visual education.
 - (4) He assists with the production of locally needed audio-visual materials that are not available from other sources.
- b. To aid in the improvement of instruction by providing supervisory services.
- (1) He assists teachers in the proper use of audio-visual materials in terms of curriculum objectives.
 - (2) He assists in arranging workshops, extension courses, and other in-service education activities.
 - (3) He integrates the audio-visual services with the county curriculum and/or course of study.
 - (4) He serves on all curriculum planning committees.

III. NEEDED RELATED STUDIES

Related studies for which need has become apparent through the findings of this study are indicated in the area primarily concerned with the administration of the audio-visual service center. Such related studies appear needed in the following areas of audio-visual administration:

1. A concentrated study to determine guide lines to be followed in establishing a balanced audio-visual library. These guide lines should show an approximate percentage of titles and quantities to be included in the library for instruction at the elementary level, the secondary level, and the junior college or college level when the latter is supported by the audio-visual service center.
2. A detailed study of cataloging methods and cost. Such a study should include data pertaining to annual costs over several years so that the initial and maintenance cost can be compared.
3. A more detailed job analysis of the positions occupied by non-certificated employees to determine what qualifications these personnel should have and what status they should have in the audio-visual service center organization.
4. The relationship between the audio-visual service center and any attempts at education by television, both closed-circuit and broadcasts type.
5. A study of budgets should be undertaken for the purpose of determining, if possible, a suitable ratio between salaries and operational costs to material and equipment costs.

This study has not attempted to determine any answers concerning the above suggested study areas. It was found, however, that reliable data are not available in any of these areas.

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BIBLIOGRAPHY

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APPENDIX A

EXTRACTED ARTICLES FROM THE EDUCATION CODE OF THE STATE
OF CALIFORNIA RELATING TO AUDIO-VISUAL EDUCATION*

DIVISION 2

LOCAL ADMINISTRATIVE ORGANIZATION

CHAPTER 15

Miscellaneous Administrative Provisions

Article 2. Audial and Visual Education

Section 4821. The Director of Education may conduct experimental work in education through various media, including radio and vision.

Section 4822. The Director of Education may develop audial and visual curriculum materials, evolve means and methods, and prescribe standards, for the use of such materials in the public elementary and secondary schools.

DIVISION 4

SYSTEM OF PUBLIC INSTRUCTION

CHAPTER 8.1

County School Service Fund Services

Article 1. General Provisions

Section 9502. The county school service fund shall be used to pay for those services provided by the county superintendent of schools that are authorized by this chapter, and for such other purposes as are specifically authorized elsewhere in this code.

Article 2. Coordination

Section 9506. The services described in Section 9505 shall, except in advisory services in school business administration activities, clerical, accounting, and stenographic services, be performed by persons who hold a valid credential of one or more of the following types issued by the State Board of Education:

*1955 Edition.

- (a) Elementary or secondary school administration credential
- (b) Elementary or secondary school supervision credential
- (c) Special subject supervision credential
- (d) A credential which authorizes service similar to that authorized by one or more of the foregoing types of credentials.

Any person who is employed in the office of a county superintendent of schools on the effective date of this section and is performing any of the services described in this article may continue to perform such services without possessing the credential otherwise required as long as he remains continuously employed in his position.

Article 9. Audio-Visual Services

Section 9545. (a) The county superintendent of schools may, with the approval of the county board of education, establish, conduct, and maintain facilities, for use in the elementary and secondary schools of the school districts under his jurisdiction that elect to participate in the use of the facilities, which provide for audial and visual curriculum materials, including the necessary salaries, supplies, materials, apparatus, and equipment and other necessary expenses.

(b) The county superintendent of schools shall, with the approval of the county board of education, enter into an agreement with the governing board of any district electing to participate which shall provide for payment by the district for the use of audio-visual facilities. The county superintendent of schools shall, with the approval of the county board of education, prescribe the method for determining the amount to be paid for the use of the facilities, but in no event shall the total payments made to the county superintendent of schools of any county by the school districts of that county be less than one-fourth in the Fiscal Year 1956-57, one-third in the Fiscal Year 1957-58, and one-half in the Fiscal Year 1958-59 and thereafter, of the total cost of the use of the facilities provided to the school districts electing to participate, except that the Superintendent of Public Instruction may provide county school service fund money in addition to the established ratio of support in those counties in which he determines that sparsity of population increases operational costs.

(c) Films and film strips shall be adopted by the county board of education before they are purchased by the county superintendent of schools.

Section 9546. The services described in Section 9545, except clerical, accounting, and stenographic services, shall be performed by persons who hold a valid credential issued by the State Board of Education of one or more of the types specified in Section 9506.

Any person who is employed in the office of a county superintendent of schools on the effective date of this section and is performing any of the services described in this article may continue to perform such services without possessing the credential to perform such services without possessing the credential otherwise required as long as he remains continuously employed in his position.

Section 9547. The county superintendent of schools may, with the approval of the county board of education, enter into an agreement with the State, any political subdivision, or any agency of the State or of any political subdivision, to conduct and maintain distribution among schools of districts under the jurisdiction of the county superintendent of schools, under such conditions as are agreed upon, of audial and visual instruction materials and apparatus approved by the constituted educational authorities. The State, any political subdivision, or any agency of the State or of any political subdivision may enter into any agreement with a county superintendent of schools authorized by this article.

Section 9548. The agreement may, among other matters, provide for the payment by the county superintendent of schools, at such times as are agreed upon, from the county school service fund to the State, political subdivision, or agency, of money for the distribution of materials and apparatus among the schools under his jurisdiction. All money transferred shall be used by the authorities of the State, political subdivision, or agency solely for the acquisition of audial and visual materials and apparatus as may be designated by the constituted educational authorities and for the care and distribution to schools of the county of the materials and apparatus.

Section 9549. The county superintendent of schools and the State or any political subdivision, or any agency of the State or of any political subdivision, may acquire materials and apparatus for distribution pursuant to this article, by purchase, rental, lease, loan, or donation, if the materials and apparatus have been adopted as required by law.

Section 9550. The governing board of any school district may contract with the county superintendent of schools having jurisdiction over the district, with the State, any political subdivision, or any agency of the State or of any political subdivision, for the rendering to the schools of the district of any service authorized by this article, and may pay for the service out of any funds of the district.

All funds paid by a school district to a county superintendent of schools for services rendered to the schools of the district shall be deposited in the county school service fund.

APPENDIX B

COPY OF QUESTIONNAIRE

WHAT AUDIO-VISUAL SERVICE SHOULD BE PROVIDED AT THE COUNTY LEVEL IN A GROUP _____ * COUNTY IN CALIFORNIA?

*1, 2a, 2b, 3 as defined in body of study.

1. Should audio-visual services be provided or arranged for in every county by the office of the county superintendent of schools? Yes _____ No _____
 - a. Should the audio-visual services be utilized by all districts within the county that do not provide their own? Yes _____ No _____
 - b. If the inventory of materials is adequate, should the audio-visual department serve all medium and small sized districts? Yes _____ No _____
 - c. What size (in units of average daily attendance) should a district be prior to considering the providing of its own audio-visual services? _____
 - d. What should the audio-visual service budget per unit of average daily attendance be in order that adequate minimum audio-visual service may be provided? \$ _____ per unit of A.D.A.
 - e. What should be the basis for determining the share each district served shall contribute towards payment of the total audio-visual costs? (Check)
 - (1) Unit of A.D.A. _____
 - (2) Assessed Valuation _____
 - (3) Class or Teacher Unit _____
 - (4) Per School _____
 - (5) Other (Specify) _____
 - (6) Combination of any of the above: (Please list combination and ratio) _____

- f. Should the county superintendent contract with districts served for audio-visual services? Yes____
No____
2. Should the county audio-visual department augment the instructional program of the schools by stocking an adequate supply of materials and equipment? Yes____ No____
- a. Should the county audio-visual department stock:
(Check)
- 16 mm motion picture films____; 35 mm filmstrips____;
2x2 slides____; 3½x4 slides____; microslides____; study
prints____; maps____; charts____; models____; realia____;
dioramas____; stereographs____; recordings, tape____;
recordings, disc____; other_____
- b. What amounts of the following materials should be stocked as a basic library in counties of your classification:
- | | (Number) |
|--------------------------|--------------|
| 1) 16 mm motion pictures | _____ titles |
| (a) duplicates _____ | _____ titles |
| 2) 35 mm filmstrips | _____ titles |
| (a) duplicates _____ | _____ titles |
| 3) Study prints | _____ titles |
| 4) 2x2 slide sets | _____ titles |
| 5) 3½x4 slide sets | _____ titles |
| 6) Microslide sets | _____ titles |
| 7) Maps | _____ titles |
| 8) Charts | _____ titles |
| 9) Models | _____ titles |

- 10) Realia _____ titles
- 11) Dioramas _____ titles
- 12) Stereographs _____ titles
- 13) Recordings--Tape _____ titles
- 14) Recordings--Disc _____ titles
- 15) Others _____

c. What needs should audio-visual departments plan on meeting through stocking equipment? (Check)

- 1) Staff _____
- 2) Experimental _____
- 3) Emergency needs of schools served _____
- 4) Special needs of small schools _____
- 5) Public service _____
- 6) Local production of materials _____
- 7) Other (Please list) _____

d. Which of the following equipment should the county audio-visual department stock: (Check)

16 mm motion picture cameras____; 16 mm motion picture projectors____; 35 mm cameras____; 35 mm projectors____; other cameras____; 3 1/4 projectors____; overhead projectors____; opaque projectors____; radios____; record and transcription players____;

tape recorders____; projection screens____; micro
projectors____; television receiver____; other_____

e. What quantities of the following equipment should be stocked:

- 1) 16 mm. motion picture cameras _____
 - 2) 16 mm. motion picture projectors _____
 - 3) 35 mm. cameras _____
 - 4) 35 mm. projectors _____
 - 5) Other cameras (_____type) _____
 - 6) 3½x4 projectors _____
 - 7) Overhead projectors _____
 - 8) Opaque projectors _____
 - 9) Radios _____
 - 10) Record and transcription
players _____
 - 11) Tape recorders _____
 - 12) Projection screens _____
 - 13) Micro projectors _____
 - 14) Television receiver _____
 - 15) Other _____
-

3. Should the county audio-visual department provide all schools served with the following services? (Check)

Booking services _____

Distribution service _____

Equipment maintenance service _____

a. Booking service

- 1) Should a single item order form be used to facilitate ease and speed of booking? Yes____ No____

(a) If no, what is recommended? _____

- 2) Should loan periods be varied according to instructional needs? Yes____ No____

(a) If no, what should the standard loan period be?

(b) If yes, how long should the booking period be for the following:

(1) Projected material _____

(2) Flat picture sets _____

(3) Realia, Dioramas _____

(4) Recorded material _____

(5) Models _____

(6) Maps and Charts _____

- 3) Should a single item booking card be used for efficiency in scheduling materials for specific dates (such as a Kardex or Wheelindex system for handling cards)? Yes____ No____

(a) If no, what is suggested? _____

- 4) Should a flexible booking system be used (for example, as little as one week in advance of intended use)? Yes____ No____

(a) If no, how far in advance of intended use should material be booked? _____

- b. Should delivery service be provided to each school or district by a county audio-visual department operated vehicle? Yes____ No____

- 1) How often should delivery service be provided? _____

- c. Should an up-to-date catalog or card file be provided each teacher? Yes_____ No_____
- 1) If yes, should catalog be classified in terms of area and/or level of instruction? Yes_____ No_____
- (a) By grade level for elementary teachers Yes_____ No_____
- (b) By subject matter for secondary teachers Yes_____ No_____
- 2) If no, what should be provided as a system for informing teachers of materials stocked?
- _____
- _____
- d. Should films be rented to augment locally owned films? Yes_____ No_____
- 1) If yes, to what extent? _____
- e. Should counties form a cooperative arrangement in order that specialized types of films will be available to all counties within an area? Yes_____ No_____
- f. Should maintenance and repair of equipment be furnished to the school districts served? Yes_____ No_____
- 1) If no, how should this service be provided? _____
- g. Should teachers assume responsibility for notifying audio-visual department when film needs repair? Yes_____ No_____
- h. When should films be inspected? _____
- i. To what extent should they be inspected? _____
- _____

4. The county audio-visual department plant.

- a. Should the audio-visual department be in the same building as other county school offices? Yes____ No____
- b. If school library services are provided, what should be the relationship with the audio-visual center? (Please check)
- 1) Under one administrative head _____
 - 2) Cooperative delivery service _____
 - 3) Separate in administration _____
- c. Should the county audio-visual department be housed in a county owned building? Yes____ No____
- d. Approximately how many square feet are necessary to provide adequate area? _____sq. ft.
- e. For what services should space be provided? (Check)

Storage _____	Preview _____
Shipping _____	Production _____
Receiving _____	General Work Area _____
Maintenance _____	Other _____
Display _____	_____
Conference _____	_____

5. What personnel should be employed to provide efficient professional and non-professional services?

a. Professional: _____

- 1) What minimum credential should members of the professional staff hold? _____

b. Non-professional staff: (Please list title, duties, training, salary) _____

6. How should the director or supervisor divide his time between administrative duties and supervisory duties?

_____ % Administration
 _____ % Supervision

- a. In administering the procuring, distributing, technical and production services of the department, should he?

- 1) Provide preview opportunities for the following in order that they can recommend purchases in terms of curricular needs?

County Superintendent's Staff Yes___ No___

Teachers Yes___ No___

Both Yes___ No___

Others (list)_____ Yes___ No___

_____ Yes___ No___

_____ Yes___ No___

- 2) Formulate policies and procedures regarding distribution of materials and equipment?

Yes___ No___

- 3) Provide assistance in solving technical problems in the following areas:
 (Please check)

Accountics _____

Room darkening _____

Production of materials _____

Other (List) _____

- 4) Provide administrative services other than listed above? (Please list:)

b. To aid in the improvement of instruction by providing supervisory services, should he:

- 1) Assist teachers in the proper selection and use of audio-visual materials in terms of curriculum objectives? Yes_____ No_____
 - 2) Assist in arranging workshops, extension courses, and other in-service education activities? Yes_____ No_____
 - 3) Integrate the audio-visual services with the county curriculum and/or course of study? Yes_____ No_____
 - 4) Provide supervisory services other than listed above?
(Please list)
- _____
- _____
- _____
- _____

APPENDIX C

COPY OF COVER LETTER
SENT TO AUDIO-VISUAL DIRECTORS OF
TWENTY SELECTED COUNTIES

California State Department of Education

DIVISION OF INSTRUCTION

Sacramento 14, California

October 15, 1956

ROY E. SIMPSON
Superintendent of Public
Instruction and Director of
Education

JAY DAVID CONNER
Associate Superintendent of
Public Instruction and Chief,
Division of Instruction

TO: Selected County Audio-Visual Education Directors

FROM: George W. Ormsby, Acting Chief, Bureau of Audio-
Visual Education

SUBJECT: Revision of Criteria for Evaluating County Audio-
Visual Education Centers

Requests for criteria to be used for evaluating county audio-visual service centers are continually being received by this Bureau. Criteria developed during the years 1947 to 1950 and sometimes used by the State Department of Education are believed out of date and in need of revision.

Changes in school law, enrollment, and kinds of service offered are but a few of the factors contributing to the need for new criteria. The most important fact, however, is that the original criteria were for a "Yardstick County" and the variance in California counties precludes their application to the metropolitan and sparsely settled counties.

A questionnaire has been designed to test the existing criteria and to indicate the extent of revision necessary. A copy of the questionnaire is enclosed as a work sheet. Please study it, complete it, and make any notes required. A representative from this Bureau will visit each

of the twenty selected counties in the near future and go over the form with the director concerned.

Your assistance and cooperation in this study will be most appreciated.

APPENDIX D

TABULATIONS USED IN THE SELECTION OF COUNTIES TO BE STUDIED

COUNTY	G R O U P*		CLASSI- FICATION
	ENROLLMENT 1956-57	ENROLLMENT TABLE 3	
Alameda	45,400	1	2
Alpine	35	3	3
Amador	1,200	3	3
Butte	14,824	2	2
Calaveras	1,990	3	3
Colusa	2,772	3	3
Contra Costa	50,237	1	2
Del Norte	3,033	3	3
El Dorado	3,725	3	3
Fresno	80,028	1	1
Glenn	4,000	3	3
Humboldt	23,693	2	1
Imperial	15,101	2	2
Inyo	2,650	3	3
Kern	53,430	1	1
Kings	11,432	2	2
Lake	2,400	3	3
Lassen	4,398	3	3
Los Angeles	342,746	1	2
Madera	9,371	2	2
Marin	23,800	2	2
Mariposa	817	3	3
Mendocino and Lake	11,479	2	2
Merced	18,311	2	2
Modoc	1,950	3	3
Mono	315	3	3
Monterey	11,436	2	2
Napa	9,440	2	3
Nevada	3,418	3	3
Orange	70,000	1	2

*Groups:	Group 1:	Enrollment	30,000 to 342,746
		Table 3	5,000 to 13.355
	Group 2a: (Two or more counties served)	Enrollment	5,000 to 29,999
		Table 3	2,100 to 4,999
	Group 2b: (One county served)	Enrollment	5,000 to 29,999
		Table 3	2,100 to 4,999
	Group 3:	Enrollment	35 to 4,999
		Table	.000 to 2.009

<u>COUNTY</u>	<u>G R O U P</u>			<u>CLASSI- FICATION</u>
	<u>ENROLLMENT 1956-57</u>	<u>ENROLLMENT</u>	<u>TABLE 3</u>	
Placer	13,964	2	2	2a
Plumas	2,900	3		3
Riverside	40,000	1	2	
Sacramento	41,000	1	2	
San Benito	2,700	3	3	
San Bernardino	27,300	2	1	
San Diego	35,000	1	2	
San Francisco	72,360	1		
San Joaquin	32,000	1	1	1
San Luis Obispo	11,700	2	2	2b
San Mateo	63,500	1	2	
Santa Barbara	16,420	2	2	2b
Santa Clara	51,000	1	2	
Santa Cruz	12,406	2	3	
Shasta	9,840	2	2	2b
Sierra	679	3	3	
Siskiyou	7,256	2	2	
Solano	28,000	2	3	
Sonoma	26,591	2	1	
Stanislaus	33,565	1	1	1
Sutter	8,436	2	2	2a
Tehama	4,656	3	3	3
Trinity	1,234	3	3	
Tulare	35,210	1	1	1
Tuolumne	2,700	3	3	
Ventura	35,000	1	2	
Yolo	10,870	2	2	2b
Yuba	6,700	2	3	

TWENTY SELECTED COUNTIES

Group 1

Fresno
Kern
San Joaquin
Stanislaus
Tulare

Group 2a
(co-op)

Mendocino
Merced
Monterey
Placer
Sutter

Group 2b

Marin
San Luis Obispo
Santa Barbara
Shasta
Yolo

Group 3

Tehama
Glenn
Lassen
El Dorado
Plumas

APPENDIX E

EXTRACT OF BUREAU OF AUDIO-VISUAL EDUCATION,
CALIFORNIA STATE DEPARTMENT OF EDUCATION
FORM AV-162 (REVISED)

AV-162 (Revised)
Page 1

NAME OF COUNTY _____ NAME AND TITLE
OF PERSON FILLING
OUT FORM _____

1. Approximate number of elem. students served by audio-visual department _____
2. Approximate number of sec. students served by audio-visual department _____
3. Number of elem. districts served by audio-visual department _____
4. Number of sec. districts served by audio-visual department _____
5. Estimated increase in circulation of audio-visual materials over last year 1954-55.
 - a. 16 mm. films _____ %
 - b. filmstrips _____ %
 - c. study prints, records, etc. _____ %
6. Authorized budget 1955-56 State \$ _____
. District contract \$ _____
7. Estimated budget for 1956-57 State \$ _____
. District contract \$ _____

* * * * *

The above seven items have been extracted from a seven page questionnaire submitted annually by county audio-visual directors to the Bureau of Audio-Visual Education, California State Department of Education.

APPENDIX F

REPORT OF COUNTY SUPERINTENDENTS COMMITTEE ON STAFFING
FOR SUPERVISION OF INSTRUCTION

TABLE 3

Counties	Number of supervisors		Total
	On teacher basis (Table 1)	On sparsity basis (Table 2)	
Alameda	2.523	.222	2.745
Alpine	.058		.058
Amador	.589	.091	.680
Butte	2.355	.439	2.794
Calaveras	.647	.204	.851
Colusa	1.253	.151	1.404
Contra Costa	2.046	.240	2.286
Del Norte	.632	.042	.674
El Dorado	2.237	.324	2.561
Fresno	12.141	1.214	13.355
Glenn	1.178	.169	1.347
Humboldt	4.647	1.906	6.553
Imperial	3.075	.371	3.446
Inyo	.874	.455	1.329
Kern	6.490	1.257	7.747
Kings	2.042	.087	2.129
Lake	1.067	.107	1.174
Lassen	1.088	.380	1.468
Los Angeles	4.391	.670	5.061
Madera	2.398	.348	2.746
Marin	2.647	.301	2.948
Mariposa	.235	.167	.402
Mendocino	1.929	.686	2.615
Merced	3.690	.301	3.991
Modoc	1.192	.310	1.502
Mono	.368	.174	.542
Monterey	3.794	.774	4.568
Napa	1.835	.166	2.001
Nevada	.833	.127	.960
Orange	3.862	.263	4.125
Placer	2.680	.456	3.136
Plumas			
Riverside	3.885	.753	4.638
Sacramento	3.985	.317	4.302
San Benito	1.377	.216	1.593
San Bernardino	5.697	1.778	7.475
San Diego	3.555	1.064	4.619

TABLE 3 (continued)

Counties	Number of supervisors		Total
	On teacher basis (Table 1)	On sparsity basis (Table 2)	
San Francisco			
San Joaquin	7.597	.606	8.203
San Luis Obispo	2.688	.474	3.162
San Mateo	1.805	.169	1.974
Santa Barbara	2.922	.666	3.588
Santa Clara	3.228	.305	3.533
Santa Cruz	1.686	.117	1.803
Shasta	2.935	.833	3.768
Sierra	.234	.191	.425
Siskiyou	3.572	1.139	4.711
Solano	1.515	.208	1.723
Sonoma	7.006	.737	7.743
Stanislaus	4.799	.358	5.157
Sutter	2.441	.204	2.645
Tehama	1.770	.308	2.078
Trinity	.787	.684	1.471
Tulare	8.251	.987	9.238
Tuolumne	1.544		1.544
Ventura	3.242	.293	3.535
Yolo	2.390	.279	2.669
Yuba	1.192	.191	1.383
Totals	154.899	25.279	180.178

APPENDIX G

COUNTIES OF CALIFORNIA EMPLOYING AUDIO-VISUAL DIRECTORS

County	100% of Time Spent in Audio- Visual Education	Less Than 100% of Time Spent in Audio-Visual Education	No Director Employed
Alameda	X		
Alpine			X
Amador		X	
Butte		X	
Calaveras		X	
Colusa		X	
Contra Costa	X		
Del Norte			X
El Dorado	X		
Fresno	X		
Glenn	X		
Humboldt	X		
Imperial	X		
Inyo		X	
Kern	X		
Kings		X	
Lake		X	
Lassen	X		
Los Angeles	X		
Madera		X	
Marin	X		
Mariposa		X	
Mendocino	X		
Merced	X		
Modoc		X	
Mono		X	
Monterey	X		
Napa		X	
Nevada		X	
Orange	X		
Placer		X	
Plumas	X		
Riverside	X		
Sacramento	X		
San Benito			X
San Bernardino	X		
San Diego	X		
San Francisco	X		
San Joaquin	X		
San Luis Obispo	X		

County	100% of Time Spent in Audio- Visual Education	Less Than 100% of Time Spent in Audio-Visual Education	No Director Employed
San Mateo	x		
Santa Barbara	x		
Santa Clara	x		
Santa Cruz	x		
Shasta	x		
Sierra			x
Siskiyou		x	
Solano	x		
Sonoma	x		
Stanislaus	x		
Sutter		x	
Tehama		x	
Trinity		x	
Tulare	x		
Tuolumne		x	
Ventura	x		
Yolo	x		
Yuba		x	
Total	34	20	4